SIR CHRISTOPHER WREN

"I never yet saw an Historian that was clear from all Affection ; that it may be were not so much to be called Integrity as a stoickal Insensibility."

Sprat's "History of the Royal Society."

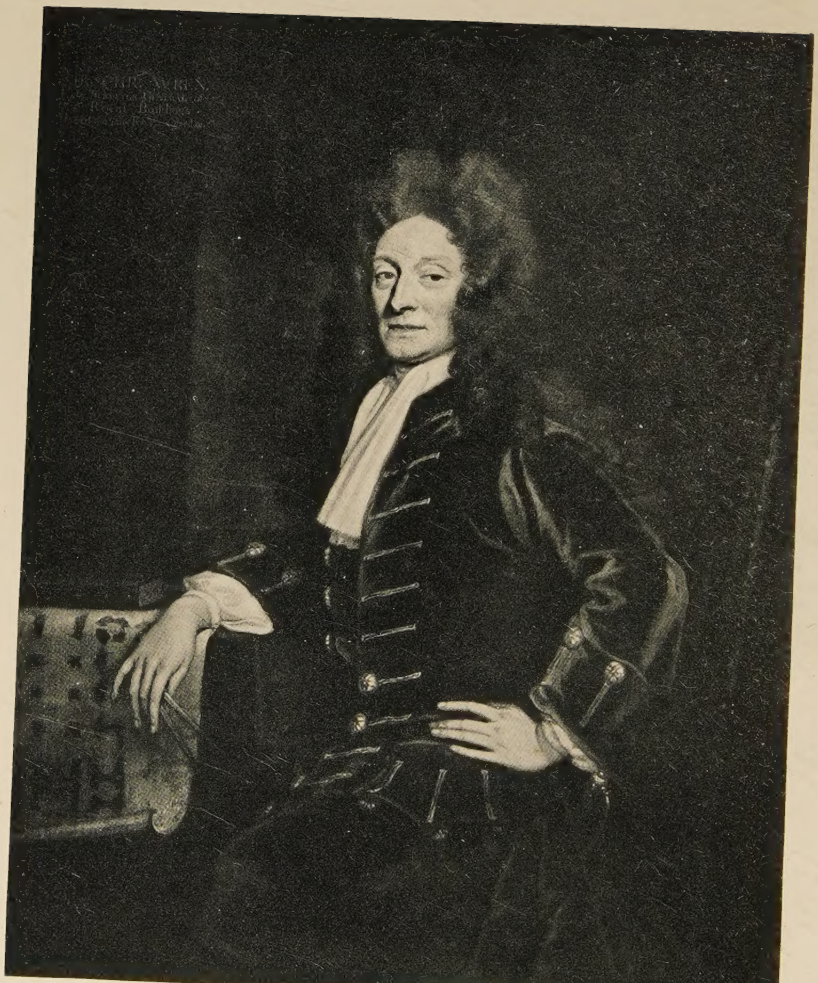

Photo by Emery Walker

PLATE 1.—PORTRAIT OF SIR CHRISTOPHER WREN, BY KNELLER

Frontispiece

SIR CHRISTOPHER WREN

BY

LENA MILMAN

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THE WRITER

DEDICATES THIS BOOK

TO HER FATHER

PREFACE

In preparing this book I have met with much kind help, but that of which I have the most eagerly availed myself has been that afforded me by my cousins Margaret and Bertha Milman, who revised my manuscript chapter by chapter, and by Mr. James Britten, who carefully criticised it in proof. My thanks are also due to my cousin Charles Williamson, who kindly translated Wren's boyish elegiacs into English verse, to Mrs. Lawrence Pigott, to the Reverend Lewis Gilbertson of St. Martin's, Ludgate, and to Mr. Eric Maclagan, who patiently answered many questions.

LENA MILMAN.

King's House,
The Tower of London.
Annunciation of Our Lady, 1908.

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A NOTE ON LATER (ROMAN) RENAISSANCE

The characteristic features of this style (defined by Mr. Charles Moore as "that architecture which derived its character primarily from the influences that were active in Rome from the beginning of the sixteenth century") are the replacing by piers of the pillars whence roof-support was derived in the buildings of the Early Renaissance and that adorning of wall-spaces by engaged orders which has led certain depreciators to describe it as "surface architecture." "The columns," says Mr. W. Anderson in describing the nave of a Later Renaissance church, "carry a decorative entablature backed by an arcade formed in a wall which does the constructive work, as at the Colosseum and in Roman work generally."

That the slender pillars of the Early (Florentine) Renaissance constantly required the supplementary strength of iron ties is a fact familiar to travellers in Italy (exemplified in the cloister of the Badia at Fiesole, in the Palazzo del Consiglio at Verona, and in the Palazzi Fava and Bevilacqua at Bologna).

With this extraneous aid it was the aim of Later Renaissance architects to dispense, and their careful study of the remains of Imperial Rome resulted in the securing of perfect stability: but this could only be achieved by what Mr. Moore

contemptuously describes as "a use of the orders rarely based upon any structural need."

There are no great public buildings of the Early Renaissance style in England, but it is exemplified in Oxford by the Laudian cloister at S. John's College, and in Cambridge by the cloisters of Neville's Court at Trinity and of the Pepysian Library at Magdalen. Wren, familiar with all these and with an example now destroyed, *i.e.*, the arcades of Gresham College, London, built his Lincoln cloister alone in this style.

The Roman Renaissance in Italy may be said to have begun with Bramante's Tempietto (1502) and to have waned on the death of Palladio in 1580, after which the influence of Scamozzi (1552–1616) and Longhena (1604–1675) brought about the triumph of Baroque.

INTRODUCTION

The invective of moralists has expended itself in vain on checking Man's proneness to draw comparisons, a proneness which tends to mar the enjoyment of this by a lurking preference for that, a cynical delight in standing as Paris of old in the presence of Beauty, to allot the apple to this one or to that of its rival manifestations. The Arts especially, appealing as they do to the shifting surface as well as to the more enduring depths of the soul, are subject to comparison and contrast according as the moment's mood incline us to delight chiefly in the brilliance of pigment or to linger rather over those elusive curves which to seize is the art of the sculptor. Architecture differs from her sister arts most conspicuously in this, that, whereas pictures and statues are obvious beauty-snares, a building has almost invariably a purpose apart from the creating of æsthetic impression. It is raised for worship, for shelter; only the privileged may enter, and the crowd without, swayed now by envy, now by contempt, of those within, takes note rather of the impenetrability of the enclosure than of its proportions.

It is no doubt partly owing to this indifference of the crowd, the giving or grudging of glory having ever been

its prerogative, that so few names of architects have come down to us. The name of Phidias, who modelled the great goddess and the metopes of the Parthenon, is a household word, but of the designers of those majestic columns, of the apportioners of those appealing spaces, the names are rarely on our lips. And yet, for any such artists among them as are content if only their work meet with ultimate recognition, there is much compensation for architects in the indisputable fact that Man has loved his house, the landmarks about the scene of his early days, more passionately perhaps than any work of painting or sculpture. The spire of Salisbury, the soaring vault of Kings', the tower of Magdalen—memories of these and such as these have knit Englishmen together all the world over, and have stood for home in the hearts of many. Sentiment and association may count for much, but who can say how much the beauty may have availed to condense the sentiment; and though the names of Richard Poore and Alan de Walsingham be unknown to many who love their work, was it not for the stirring and maintaining of emotion that they laboured, and has emotion not been both stirred and maintained by their labour to this day?

The man, however, whom we are about to consider has suffered no such injustice: the name of Christopher Wren was honoured in his own day as in ours. His it was to imprint physiognomy on the otherwise amorphous accumulation of London, and more especially on the banks of her great river. The colonnades of Greenwich, the spires and towers of the City, the dome of St. Paul's, Chelsea —are not these among the most conspicuous points of

that confused mass which we sum up as London? Nor did Wren's influence die when his long life was done, since it is distinctly traceable in the stern street architecture of Bloomsbury and Portman Square in an austerity which concentrated ornament on fanlights and porches, and consented to the uncompromising angularity of sash-windows as best adapted to England's capricious climate. It is true indeed that during the Gothic revival of the early nineteenth century, ecclesiastical taste-tinkers went so far as to tamper with Wren's work, and even introduce tracery into the windows of some of his City churches, but soon the tide of his reputation was again running high, and it would seem to be still rising.

Just as we owe the dignity of our national worship to the zeal of William Laud, so, had it not been for the genius of Christopher Wren, Later Renaissance might have remained an exotic in England, since Inigo Jones never succeeded in acclimatising classical architecture. Those, therefore, whose admiration for Italian form inclines them to demand its literal reproduction will prefer Inigo Jones's Palladian transcriptions to the greater simplicity of Wren's domestic buildings, although the incomparably wider influence of the latter is undeniable. The porticoes of Belgravia, the gables that distinguish the Cadogan estate, testify to Wren's greatness, those in their failure to achieve symmetry by unbroken monotony, these by their vain attempt to enlist interest by means of a commercial caprice which dictates varied angles on the sky-line and the squandering of mouldings on façades.

We have spoken of Man's inherent incapacity for empha-

sising his appreciation of one thing, unless by a vehement depreciation of another, and just as this leads to heated argument between the exponents of the rival arts, so to no less fierce differences between devotees of the several periods of each of these—between disciples, for instance, of Gothic and Renaissance architecture. Like most divergences of opinion, the quarrel is that between warring temperaments: the man who delights in difficulties overcome, in effort even though it be futile, will "fret himself because of the ungodly" and extol the aspiration, the contempt for material limitation, of Gothic, while his brother "delights himself in fatness" and approves the cheerful acceptance of the inert and its properties, the indifference to symbolism which characterises the Renaissance. It was natural enough that in an age so essentially material as that of the later seventeenth and early eighteenth centuries, an age for which enthusiasm was anathema, the art of effort should meet with little appreciation. Gothicism became as current a term of reproof as it had been in the beginning. Christopher Wren was a typical son of his century, a century which shunned mystery, which had no quarrel with the inexorable laws of nature, no longing to escape life's durance, no eagerness for a higher state of spirituality than is easily compatible with the life of every day. Gothic belongs to an early stage of civilisation, when the world was young and loved to wonder, while Renaissance is a renewal of youth, and renewals are of necessity self-conscious. As surely as youth loves to wonder, so surely maturity prefers to understand, and it is mature man's delight in reason which the art and literature of that day so admirably illustrate. As in

the great Puritan epic, the poet, dealing with matter of awful import, obviously loves to slip the yoke for a while and refresh himself by sensuous description and musical epithet (concessions to a need for recreation which Puritanism was powerless to root out), so, to work as severely scientific as Wren's, garlands and pouting *putti* give relief. Gothic relaxes effort in grotesque, while the Renaissance prefers the dimpled limbs and irresponsible laughter of little children.

CHAPTER I

CHILDHOOD AND SCHOOL-DAYS

The precise date of Christopher Wren's birth is a matter of dispute, but most authorities agree in setting aside his baptismal entry dated 1631 as inaccurate, and accepting October 20, 1632, as the day on which a second son was born to Christopher Wren, Rector of East Knoyle, in the county of Wilts. Two years earlier in the register another son's birth is recorded, but since to both alike there was given their father's name in baptism, it would seem certain that the elder died in infancy. There is no mention of any other son, nor, with one notable exception, is anything known of five daughters except their names.[1] It is curious that we should search the pages of registers and *Parentalia*[2] in vain for any information respecting

[1] Three are known to have married: Anne (1634-67), the Rev. H. Brunsall; Catherine, Richard Fulburne, of New Windsor; and Susan, the Rev. W. Holder.

[2] The chief source of information for the biographers of Sir Christopher Wren is the capriciously selected, carelessly compiled record known as *Parentalia*, collected by the great architect's son Christopher, and published by his grandson Stephen in 1750. It is divided into three parts, which deal respectively with Matthew Wren, Bishop of Ely; Christopher Wren, Dean of Windsor; and the subject of this book. An heirloom copy, interleaved with many original manuscripts, &c., is in the possession of Sir Christopher Wren's lineal descendant, Mr. Pigott.

the death of the mother of the family (a Cox of Fonthill Abbey), but she cannot have survived to see her son through early childhood, since we read of his sister Susan, but five years his senior, that she stood for him in the place of a mother.

Of the old rectory in which Christopher Wren spent those first years, the scanty remains form but a wing of the present late-Georgian house ; but the church, which stands high above the road on a hillside, is externally much as it was in the Wrens' time, with a fifteenth-century tower of remarkable strength and dignity, and a fine roof of Horsham slate. While a disastrous restoration under Wyatt has fatally injured the interior, especially in a mischievous modification of the chancel arch, the north and south walls of the chancel retain the curious pargetting reliefs designed by the elder Christopher, and executed when his son was nine years old, the insidious "Popery" of which furnished the Puritans some ten years later with excuse for depriving him of the living. The Ascension above the arch on the west wall is almost obliterated ; the symbols of the Blessed Trinity and the crucifix, to which exception was specially taken, have vanished from over the altar ; but the figures and texts on the north and south walls of the Dean's scheme are almost intact, the frames and frieze exhibiting the strapwork so favourite an ornament in the domestic architecture of the earlier Renaissance, of which Inigo Jones and Christopher Wren rarely, if ever, made use.

Susan was nine years old, her brother but four, when, upon the translation of their uncle, Matthew Wren, from the See of Norwich to that of Ely, and his consequent resignation of the Deanery of Windsor and Registrarship

of the Garter, the King conferred these two latter offices upon the Rector of East Knoyle, in his brother's stead, and accordingly the household moved from Wiltshire to Windsor. In such favour did Dean Wren stand with the King that when, shortly after, the rectory of Great Haseley, in Oxfordshire, also fell vacant, that, too, was given to him, and, except for a short period in 1643 which he spent with the Royalist army at Bristol, his life, until he was forced to retire "because of oppression," was passed between his parsonages (he did not resign East Knoyle) and his official residence within the walls of Windsor Castle.

There is little personal record of those early days, but, in a letter addressed to Charles Louis, Elector Palatine, in after years, Christopher writes of that devotion which he conceived "while yet a child, when the Elector was pleased to honour his father's house with his presence"; and this must have been about the year 1637, when little Christopher was five years old, during the Elector's first visit to England, undertaken for the purpose of persuading the King to espouse his cause and assist him to regain the Palatinate by force of arms. With England and Scotland equally disturbed, the King's refusal of aid was a matter of course, but the Elector spent his time between Theobalds and Whitehall, and, in the words of *Parentalia*, occasionally made use of the Deanery House "for retirement and benefit of the air," welcome, no doubt, as the King's own nephew, in that Royalist household, and as yet unsuspected of any leanings towards that ignoble defection to the side of the Parliament by which, some five years later, he blackened his memory for ever.

It was the austere custom of those days to send boys to

school at a very early age, but *Parentalia* explains that little Christopher's first education in classical learning was (by reason of tender health) "committed to the care of a domestick tutor, the Reverend William Shepheard," until such a time as he should go to Westminster, which was not until he had passed what was then considered the mature age of nine. It is easy to conceive how this prolonged sojourn at home served to impress the family traditions of love for Church and King on a child of unusual parts, endowed with the precocious mental sensitiveness which is both cause and effect of physical weakness, and how the impression must have been subsequently deepened by the staunch Royalist tone of his school. True that not until the boy's days of home teaching were over did his uncle, the Bishop of Ely, enter on his long term of eighteen years' imprisonment, but already he had been attacked with the virulent vulgarity rarely separable from Protestant polemic, and seemed likely to fall a victim to any violence which should be meted out to Primate and King. We can imagine the intense interest with which close relations with many of the principal actors caused public events to be followed by the family circle at the Windsor Deanery, for the girls and boy must have shared in their father's indignation as news came, now of an attack on St. Paul's, now of a mob of fanatic insurgents threatening the Archbishop with violence at Lambeth Palace, and later of Laud, whom they revered next to the King's sacred Majesty himself, thrown into the Tower.

It was in the second year of the Long Parliament of 1641, "that long ungratefull, foolish and fatal Parliament," as Evelyn calls it, that Christopher Wren, small in stature,

but having apparently outgrown much of his early delicacy, was entered at Westminster School, of which the atmosphere under the rule of that uncompromising Royalist, Dr. Richard Busby, must have been entirely sympathetic to the boy's early prejudices, and the head-master's proverbial severity surely relaxed a little towards a boy of precocious talent, especially committed to his care by a family conspicuous for their devotion to the house of Stuart.

Lambeth Palace, visible across the river, must have kept the boy in constant mind of the Archbishop now in the Tower, and he must have envied his schoolfellow, Philip Henry,[1] who could boast of having often earned smiling thanks from Laud, "who had taken a particular kindness to him when he was a child, because he would be very officious to attend at the water-gate (part of his father's charge at Whitehall) to let the Archbishop through when he came late from Council to cross the water to Lambeth." Near to Christopher Wren, too, in the school, was Robert South,[2] who, whatever of caution he may have learned with years, was, as a boy, amongst the most zealous for King Charles, and who has testified "that Westminster School was so untaintedly loyal that he could truly and knowingly own that in the very worst of times he and his companions were really King's scholars as well as called so." "Here," he continues, "upon that very day, that black and eternally infamous day of the King's murder, I myself heard that the King was publicly prayed for but an hour or two before his sacred head was cut off."

[1] Philip Henry (1631–96), a famous Nonconformist divine.

[2] Robert South (1634–1716), an Anglican divine, famous as a Court preacher.

Civil war broke out the very year that Christopher Wren went to Westminster, and among the scholars none can have watched history more anxiously than the nephew of Matthew, Bishop of Ely, who, during the boy's school-days, enjoyed but four months of liberty. Nor were the Westminster boys denied an opportunity of active share in public events, for they aided the choristers and vicars-choral in successfully defending the Abbey against the apprentices' attack in 1642, while, in the same year, the growing power of Puritanism is traceable in an enactment that "the Colleges of Westminster, Eton, and Winchester be added and comprehended within the order of February 17, concerning the imposing upon young scholars the wearing of surplices." The order was as follows: "That the statute made in the University of Cambridge which imposeth the wearing of Surplices upon all graduates and students under several pains and reinforced by the law of 1603 ought not to be pressed or imposed upon any Student or Graduate, it being against Law and Liberty of the subject."

Meanwhile Dean Wren and his daughters were themselves sufferers at the hands of the insurgents. We have noted that, in addition to the Deanery, Christopher Wren the elder held the office of Registrar of the Order of the Garter, with the care of the insignia thereto pertaining. The rapacity of Parliament was as proverbial as its detestation of all trappings of State, and, fearing an attack, the Dean took all precautions in his power, even "to burying the diamond George and Garter of Gustavus Adolphus." This fear proved only too well founded, for in October 1642 came "one Fogg, pretending a warrant from the King and demanding the Keys of the Treasury, threatening if they

were denied him by the Dean and Prebendaries, to pull the Chapel about their ears." Finding his threat barren of effect, he forced the door with iron bars and carried off all on which he could lay his hands. The Deanery too was ransacked, and the personal property as little respected as the rest, for the Dean lost books and manuscripts and plate, including two silver tankards, gifts of the Elector Palatine. The Chapel altar-plate, too, was carried off by the soldiers, and the Registry of the Garter burst open and rifled.

Susan Wren was spared the pain of taking up life again in the despoiled Deanery, for a few months later, in 1643, she was married to the Sub-Dean of the Chapel Royal and Rector of Bletchington in Oxfordshire, the Rev. William Holder.

He was, according to Aubrey,[1] "a handsome, gracefull person of delicate constitution," very helpful in the education of his young brother-in-law, "a youth of prodigious inventive wit, of whom he was as tender as if he had been his owne child." He it was who gave the boy his "first instruction in Geometrie and Arithmetique."

The same authority tells us further that "it ought not to be forgot the great and exemplary love between this Doctor and his virtuose wife, who is not lesse to be admired in her sex and station than her brother, Sir Christopher, and (which is rare to be found in a woman) her excellencies do not inflate her. Amongst many other gifts she has a strange sagacity as to curing of wounds, which she does

[1] John Aubrey (1626–97), an antiquary, who left a collection of biographical notes of his contemporaries, published after his death as *Brief Lives*.

not doe so much by precedent and receipt bookes as by her own excogitancy considering the causes, effects, and circumstances."

"On one occasion," so Aubrey rambles on, "King Charles II. had hurt his hand, and the surgeon could do nothing for his relief. Then some one told the King what a rare shee-surgeon he had in his house; she was presently sent for at 11 o'clock at night; she made ready a pultisse and applyed it and gave his Majestie sudden ease and he slept well." Soon she perfectly cured him, "to the great grief of all the surgeons who envie and hate her."

But the early years of Susan Wren's married life must have been very full of anxiety, for directly after her wedding she accompanied her husband and father to the Royalist camp at Bristol. Heavy indeed must have been the hearts of the travellers as each mile of the way set them at a greater distance from London, where Matthew Wren, Bishop of Ely, and William Laud, Archbishop of Canterbury, lay fellow-prisoners in the Tower. And presently the news came to Bristol that the Primate, whom they both loved and reverenced, and who had worked so zealously and fearlessly to restore the beauty of God's house and dignity to His desecrated altars, had been led out to martyrdom on Tower Hill. It was the January of Christopher's last year at Westminster, and with their young love of life, how he and his schoolfellows must have marvelled at the courage and confidence of that prayer of the Primate's passing which begins so simply, "Lord, I am coming as fast as I can," and which brought him such comfort that he laid his head on the block "down as upon a bed."

Those were dark days: "the misery of our common

Mother the Church," to use a phrase of South's, was to increase in bitterness for many years to come; but we must be careful not to exaggerate the influence of any individual man in the gradual restoration of some measure of Catholic dignity of ceremonial to the Church of England. We should consider how impossible it would have been, in those days of difficult travel and little popular reading, to inaugurate a new state of things, to restore a broken tradition. Deep in men's hearts, among the horrors of civil warfare and that dread of foreign interference which had been the chief incentive to Reformation in England, there must have lain an eagerness to shake off the shackles of Puritan severity. Little children must have been taught to fold their hands and bend their knees in prayer, to pray too in the hallowed words of past centuries while taught to think sadly of a beauty departed, of which fragments still lingered. A boy of Wren's sensibility, marvelling at the wrecked carvings of the Ely Lady-chapel, very early rejoiced in the recognition that, in the religion of his father, there was no tenet to account for such violence, no prohibition of beauty, no grudging of grace such as man has loved to offer to God, no justification for the Government's action in 1641, when Commissioners had been sent to every county with express orders "for the defacing, demolishing, and quite taking away of all images, altars, crucifixes out of all churches and chapels."

Of Christopher Wren's achievements at Westminster there is little detailed record, but he displayed remarkable ability, and had already shown his natural bent towards invention by making an astronomical instrument, of which *Parentalia* vouchsafes no more precise description than

that it was "of general use," which, together with a school exercise, "De Ortu Fluminum," he dedicated to his father in Latin verse of remarkable fluency, of which a translation follows:

Look on the handiwork of thy fond child,
Dear Sire, if ever cares admit relief.
There I have sought to paint the starry wild
In all its moods, and trace the heavens in brief;
How seasons long since fled again appear,
The century, the month, th' unequal day;
How the sun goes, returns, tempers the year.
Once more caught back, renews his lengthy way,
While the young moon puts on a slender guise,
And grown, is seen resplendent with full light.
At the month's end she no more decks the skies,
But with her torch extinct defrauds the night.
Thus while I strive these Deities to con,
To pierce the height and tread the hidden way,
Direct the flight of thy still unfledged son,
Be present, kind, whether he fly or stay,
Lest overbold like Icarus he try
To test his power and fall with like disgrace.
From thee comes courage for this learning high
Till thou art bidden seek the Higher Place.

It will be seen that the boy's first lines describe his father as harassed by cares, and indeed they are dated November 1645, soon after the battle of Naseby so fatal to the Royal cause; in the spring of that year, Dean Wren's house at Windsor had been sacked, and he had been deprived of the living of Great Haseley.

CHAPTER II

LONDON

There is an interval of three years between Christopher's leaving Westminster and going up to Oxford, an interval during which disaster after disaster befell the Royalists and culminated in the treason of Whitehall. The Windsor Deanery was again rifled in 1645, the hiding place so carefully contrived was discovered, and the diamonds were carried off. Nor did Dean Wren's trouble end here, for he was also persecuted at East Knoyle. On July 22, 1646, John Niffen deposed "that Dean Wren did cause to be made in frette work suspicious pictures in the Chancell—amongst the rest the picture of Christ ascending in a longe robe and the upper part thereof was out of sight . . . and a picture of Christ upon the Cross and a Crucifix." A year later, April 1647, "George Style said: that the morrow after Lady Day last was two years that there came into his house a great Company of the King's force about 10 of ye clock at night and Doctor Wren came in with them in their Company, and this Examinant's[1] wife provided him and one of the King's Commanders a bed and they lodged together. At the Doctor's first coming inn he saluted this Examinant by

[1] *I.e.*, witness.

the name of Landlord and in the morning as he lay in bed hee spoke these words to the Commander that lay with him—'Sir, all is well—there's no danger for I left word with my wife if there were she should send word over the grounds."

And again on May 8, 1647.

"Robert Brookway, of Quinton in Dorset, Plaisterer, sworne saith, that about July last was eight years or thereabout Dr. Wren of Knoyle sent for this Examinant and agreed with him to make and set up at the Chancell at Knoyle in frett-work the picture of the 4 Evangelists and such other things as afterwards the said Doctor should invint. . . . And further saith that the said Doctor Wren himself made a bargain with him for the work and gave him IIs and VId in earnest and paid him the remainder according to his agreement—and that the said Doctor Wren came every day himself to viewe the worke and to give his directions in itt.'"

The malignity of the persecutors seems even to have roused the indignation of their own faction, since an appeal was made to the Wiltshire Committee from the Committee of Lords and Commons touching Dr. Wren, pleading that "it appeareth that Dr. Christopher Wren hath been much employed by this Parliament and hath suffered many violences and plunderings in the performance of these employments. And likewise he hath contributed very large sums to the service of ye state, and being a paynefull labourer in ye work of ye Ministry about these thirty years all which doe justly induce us to

believe that he is a Person farr from meriting the Doom of Sequestracion."

Notwithstanding this appeal, Dean Wren was deprived of his benefice, and William Clifford, a Dissenting minister, appointed in his stead. It appears none the less that the Dean was allowed to retain the Rectory-house, at al events for a time, and that, when the Royalist camp was dispersed at Bristol, he and the Holders took refuge at East Knoyle. Meanwhile his son's continued progress in learning was the Dean's chief source of consolation. The boy would seem to have stayed on in London, introduced by his father to Sir Charles Scarborough,[1] who, although but just thirty, had already attained to eminence in the medical profession, but had lately suffered ejection from his fellowship at Caius on account of his loyalty. Mathematics in those days were not a part of the regular academic curriculum, but Scarborough had devoted much of his time at Cambridge to self-tuition in that branch of learning, with Seth Ward for fellow student. Among the books which they found most helpful was a certain *Clavis Mathematicæ*, and so keen was their love of learning, that, finding the understanding of a passage in that text-book beyond their powers, they were at the trouble of travelling to Albury, where the author, William Oughtred,[2] was Rector, to ask him to expound it to them. From the old scholar's natural delight at such eager seeking after knowledge there sprang up a great friendship between him and the two young men, who were to achieve no little distinction in after

[1] Sir Charles Scarborough (1616–94), physician to Charles II. and later to James II. and Queen Mary.

[2] William Oughtred (1575–1660), a famous mathematician,

life. We have Oughtred's authority for saying that Scarborough had a memory of so prodigious a tenacity that he could recite in order all the propositions of Euclid and Archimedes and apply them. Christopher Wren would seem to have occupied the position of assistant, especially in the preparation and dissection of anatomical specimens, in which his deft fingers must have stood him in good stead. An illness of Christopher's, too, at about this time must have drawn master and pupil yet closer together, how closely we can judge from the following letter, a rendering of the Latin original addressed by Christopher to his father in 1647:

"Honoured Father,—

"I am greatly enjoying the society of the famous Physician (Sir Charles Scarborough) who is most kind to me; so gracious and unassuming is he as not to disdain to submit those Mathematical Studies in which he has so distinguished himself to what I will not call my Judgement but rather my Taste, so that he even lends a patient Ear to my Opinions and often defers to my poor Reasonings; while, in my turn, I impart to him anything of merit which I have lit upon or which I owe to you in Organics or Mechanics; one of these Inventions of mine, a Weather clock namely, with Revolving Cylinder, by means of which a Record can be kept through the night, he asked me but yesterday to have constructed in Brass at his Expense. The other day I wrote a treatise on Trigonometry which sums up as I think, by a new method and in a few brief rules, the whole Theory of Spherical Trigonometry. An Epitome of this I re-wrote

on a brass Disc of about the size of one of King James's Gold Pieces, and having snatched the Tool from the Engraver, I engraved much of it with my own Hand which Disc Sir Charles had no sooner seen than he insisted upon having a similar one of his own.

"You know how there exists in the vulgar tongue a most esteemed Tract by Dr. Oughtred on Geometrical Dialling which Tract the Author (worn out with years) has often besought Sir Charles to render into Latin, but he, with weightier Business in Hand, appointed me to the task which I have just completed. I shall now only add a Letter to the Author so that, to my great advantage, as Sir Charles promises, I may both gain an old Man's Favour, and, at the same time win that of all those Students of Mathematics who acknowledge Dr. Oughtred as their Father and Teacher."

The letter to the author is less natural in style, but it is spontaneous compared with many dedicatory epistles of that date, and not a little interesting in that all the imagery is, as in his Latin poem, derived from astronomy, the science to which for the next ten years Christopher Wren chiefly devoted himself.

Christopher Wren's Letter to the Author prefixed to his Latin Rendering of Dr. Oughtred's "Golden Key"

"To the Venerable Author of the Key well-termed Golden, to him of whose achievements in higher Geometry his Time must ever be proud, greeting.

"Welcome indeed (Most gifted of Men) was the Shining of your Key upon the Sphere of Mathematics in this Age

of ours, so that even the most learned have regarded it, nor undeservedly, as a Guiding Light since, led by Thee, they have been able safely and surely to cross the great stormy ocean of Algebra and so attained to other and unexplored Regions of Mathematics, Some indeed were so blear-eyed as to sneer at a Star so minute as dim and misty, just as those tiny Specks of Light in the Sky which indicate celestial bodies both huge and effulgent, in size equal to this great globe of ours or at least to others of our System, by Reason of their hanging hidden by vast spaces, forfeit some Measure of their Glory by their very sublime Remoteness and are unheeded by the crowd. Wisely then since the Reputation of your work is growing not only at Home but abroad, you, by a second edition, have made this Star to shine even more brightly for in the former edition it appears unaccompanied by the little torch which so delightfully illumined the Art of Clock-making. Therefore, in order that in a language more majestic than ours it may adorn your Key as a drop-pearl, a jewel, the renowned Doctor Scarborough has set me this task.

"Sir Charles is too intimately your Friend, his Attainments are too widely known, to make it necessary for me to speak here of his Familiarity not only with the most recondite branches of Medicine but with the whole Field of Polite Literature; it is to his Kindness and Liberality of Mind that I am indebted not alone for any little skill that I can boast in Mathematics, but for Life itself which, when suffering from recent sickness, I received from him as from the Hand of God. Forgive me if, in devoting so many words to his Praise, I seem to come short of Courtesy to you; while endeavouring with no more than a boy's skill to match your words which need no adorning but

sparkle by their very Brevity, that Brevity, I say, which to have attained is to have reached the very Summits of Literature; for very wisely in your Key you have rejected the Reasoning which is in common use among Men but which is useless in matters so abstruse; to this you have preferred symbols and figures which, without an Array of Words, enable the Reader to grasp your Meaning at a Glance. It is a hard method but for this very Hardness, to my thinking only the more Divine, since it is an Imitating of those Celestial Beings who, unimpeded by Hindrances of Human Speech, by laying bare the soul, reveal all Mysteries. I have therefore endeavoured to render your Treatise on Clocks almost Word for word (this was the easier perhaps since you wrote it for practical use and therefore a little carelessly). I was only fearful lest, owing to Ignorance of mine, one Point of Learning should be lost, Learning to be the humblest Seeker after which I consider my proudest boast only asking of you (if even this be not more than I deserve) that you include among your most devoted Admirers.

"Christopher Wren."

It must have been in the company of Sir Charles Scarborough that Christopher Wren first met Dr. John Wilkins,[1] who had for some time past filled the post of Chaplain to the Elector Palatine, his skill in mathematics having originally recommended him to a prince who was a great lover and patron of the science. Wilkins had been appointed before the outbreak of civil war, and his leaning to Puritanism must have inclined his royal master's favour

[1] John Wilkins (1614–72), a divine of Erastian tenets; Bishop of Chester, 1668.

still further towards him, since the society of a Royalist chaplain would have made his own change of politics more obviously and constantly conspicuous. Wilkins, struck by young Wren's attainments, presented him to the Prince, whose treachery and ingratitude seem to have been, for a time at least, overlooked in the boy's pleasure at meeting once more with a friend of his childhood. There is still extant the draft of the pompously expressed letter which Christopher Wren addressed to Charles Louis and accompanied with a present of some of those mechanical contrivances in the invention of which he exhibited such prodigious versatility. Reference has already been made to this letter, in which he alluded to the days when the Prince had been a frequent guest at the Deanery.

While attending on the Prince who lodged at Whitehall, Wilkins's light duties as Chaplain had allowed him leisure to pursue scientific inquiry as one of a little knot of enthusiasts who, from about 1645, were accustomed to meet weekly in London to communicate to one another the results of such experiments as they had already made, and to devise further research. Robert Boyle, a philosopher at eighteen, Sir Charles Scarborough, Seth Ward, and Dr. Wilkins were of the number who in those days of divided houses found welcome distraction in considering that larger world in which politics play no part and in which competition for more intimate acquaintance rouses no personal animosity. Boyle, the chief exponent since Bacon of experimental as opposed to scholastic philosophy, was wont to speak of these meetings as those of the "Invisible College," a term which seemed expressly to deprecate any interference from

the outer world, and indeed a rule was made absolutely prohibiting any reference to the two subjects ever most liable to lead to strife, namely, religion and politics. From these informal assemblies, held now at Boyle's lodgings, now at a Cheapside tavern, sprang that famous Royal Society which, says Doctor Gardiner, "brought together men who thought more about air-pumps than about the mysteries of theology, and whose enquiries by and by made any renewed triumph of Puritanism impossible." But Dr. Gardiner is writing of a time many years later than that period of Christopher Wren's life which we are now considering, and certainly in 1647-9 the triumph of Puritanism must have appeared complete.

In dealing with this time we are constantly puzzled to account for the tolerance, often amounting to expressed goodwill, which members of one faction were able to maintain towards those of the other, and this while civil war was raging in different parts of the country ; and later on, more strangely still, when the Royalists were under the heel of the Puritans. As related above, Oughtred, Scarborough, and Wren seem to have associated familiarly and daily with Wilkins and others of his colour; and we shall find John Evelyn, the ardent Churchman and Royalist, speaking of Wilkins as "his dear and excellent friend." Philosophy was in the air, philosophy which avails above all else to detach men from their differences by drawing them into search after indivisible Truth. Well perhaps that it was not given to the wisest of that little company to foresee that the very name of their society formally enrolled would be a vindication of the Divine Right of

n expeditions to that very region of
on which Englishmen, weary of strife
nd Commons, had set out and found

ers of Christopher Wren's that have come
nost charming is one written to his father
It is especially interesting as illustrating
ss which lay on his heart in the midst of
oyment. It is not known which house he
me think that it is Bletchingdon in Oxford-
joins what was henceforth his home: his
rectory.

nonor'd Father," it runs:
ly made welcome by the best of Friends, I
Easter Holydays as happily as you will
following brief Description of the Locality:
sion (not indeed unworthy to be a Palace for
mensions, in the symmetry of the Fabric or
our of the appointments) stands almost on
Brow of a Hill. Delightful Gardens sur-
nished with innumerable walks, some laid
ravel, some with swelling Turf, nor are Pools
Groves of Trees whose topmost Branches
support a clamourous Commonwealth of Rooks, whole Hamlets, I had almost said Townships, of them, there is moreover a Park adjoining, both pleasant and spacious, out of doors one might call it a terrestrial Paradise, within: Heaven itself (you might say of it, more truly than the Poet of old of Cæsar's palace: that the house was like Heaven and the Lord of it better than his House).

"Why indeed should I not call so charming a Spot Heaven? a spot in which the Piety & Devotion of another age, put to flight by the Impiety and Crime of ours, have found Sanctuary, in which the Virtues are all not merely observed but cherished, a Spot which the three Graces (Divine so to speak!) have chosen for their Parnassus, as a very Pindus of the Gospel, in which finally holy Mothers and Maids singing divine songs, offering the pure incense of their Prayers, reading, meditating and conversing of Holy Things, spend almost all Day in the Company of God and His Angels. What were it but Tautology to say that, under these happy circumstances, I am well? I have nothing left to wish unless it be that you may long be spared to bless your Devoted Son.

"Christopher Wren."

CHAPTER III

OXFORD

The influences of Christopher Wren's home and school had been exclusively Royalist. Although, as we have seen, his circle of acquaintance comprised men of opposite politics, yet his immediate superiors had been devoted adherents of the King; but when, in 1649–50, he was entered as Gentleman-Commoner at Wadham College, he found Parliamentarian rule supreme at Oxford. Nor was its arbitrariness discernible merely in the recent changes among the professorial staff of the University, for the outward effect of the Presbyterian and Independent Visitations following closely on one another is vividly described in Allibond's[1] macaronic Latin ballad, in a contemporary translation of which occur the following stanzas:

Whilst out of town, strange news alarmed
My ears, which sounded oddly,
That Oxford was to be reformed
By Dunces known as Godly.

Ent'ring the City to inspect
These blessed Regulators,
There only found a meagre sect
Of formal, ugly creatures.

[1] John Allibond (1597–1658), a parish priest of Gloucestershire.

Those who had slept in Darius' den
An age and then awaking,
Sure never saw such ill-looked men
Or Monsters of God's Making.

Crosses and Temples they beheld
Entirely desecrated
Which pious Guides took care to build
When Virtue was respected.

But in these Holier Times our Saints
Hold Temples in derision,
And pull down Crosses with Pretence
They're signs of Superstition.

This account is dated October 6, 1648, and four months later the treason of Whitehall had made England shudder and the Royal cause for a while seem lost. Closely upon the Visitations had followed the tyrannical expulsion of all such officials and heads-of-colleges as declined to swear allegiance to Cromwell, and of Wadham it is recorded that the warden, Dr. Pitt, having been removed "for high contempt and denial of the authoritie of Parliament," the fellows and scholars were required, "as they would answer to the contrary at their peril," to receive Dr. Wilkins, the Parliamentary nominee, in his stead. This was in April 1648, a year before Christopher's coming. The warden of Wadham was no stranger to the young undergraduate, and it is said of him that "the cavaliers gladly placed their sons under the care of one who strove to be tolerant." In all save politics Wilkins must have been a preceptor after the boy's own heart, of all men then in Oxford the best able to concentrate his pupils' intellectual effort on science. Among the scanty information we have concern

ing this period of Christopher Wren's life there is not a hint or suggestion of any leaning towards art. Ingenious time-saving instruments, weather-clocks, astronomy, mechanics—with all these he appears to have busied himself, exhibiting the results of his skill and ingenuity at the weekly meetings which Dr. Wilkins organised on the model of those in London, in which he could no longer share. That Christopher Wren should have been invited to attend is sufficient evidence of the high esteem in which his ability was held, for the assemblies appear to have grown in importance, while men of opposite political sympathies were equally made welcome, the prohibition of any mention of politics or religion obtaining here as in London.

Side by side, round that tolerant table at Wadham, sat Thomas Willis, in whose rooms in Canterbury Quad the abolished Church Liturgy was daily read; Goddard, the Protector's body-physician; Oughtred, so devoted a King's man that he was said to have died for joy on the Restoration; Theodore Hack, a German of the Palatinate high in the Elector's favour; and besides Wren, an undergraduate, his junior by four years, Thomas Sprat, the first historian to tell of these meetings, in whose *History of the Royal Society* we read of the company that "their first purpose was no more than only the Satisfaction of breathing a free air and of conversing in quiet with one another without being engaged in the Passions and Madness of that dismal age." The closer our study of contemporary records, the more difficult it becomes to conceive of that circle of politicians, for, unless we except the visionary

1 Thomas Sprat (1635–1713), Bishop of Rochester and Dean of Westminster.

Robert Boyle, all those of whom we have made mention are known to have been from time to time in the very thick of public events, pursuing studies so recondite while their country was in the throes of bitter strife. Our estimate of the mental effort of successfully concentrating the mind upon problems such as those of astronomy and physics, of which Christopher Wren delighted in attempting the solution, might lead us to conceive of him as callously indifferent to the cause for which his kinsfolk were enduring such hardships. Had he no thought for his uncle the Bishop, craving permission to take exercise on the Tower leads ; for his father, deprived ; for his young cousin, Matthew Wren, flying to and fro across the country in imminent danger of his life in the Royal service ? We have seen how in the few letters we have quoted there is reference to his grief at the course of public events, and now of his anxiety we can form some idea from the account, preserved by Aubrey, of a dream which haunted him during a vacation at East Knoyle. He " dreamed he saw a fight in a great market-place which he knew not, where some were flying, and others pursuing, and among those who fled he saw a kinsman of his, who went into Scotland with the King's army. They heard in the country that the King was come into England, but whereabouts he was they could not tell. The next night came his kinsman to Knoyle Hill, and brought with him the disastrous news of Charles the Second's defeat at Worcester, 1651." It seems probable that the kinsman was Matthew, the Bishop's son.

It is from John Evelyn's Diary that we can best form an idea of the desperate straits of all Churchmen. On Christmas Day 1652 we read, "No Church permitted to

be open"; on the same day, 1653, "No Churches"; and on the following Ash Wednesday, "In contradiction to all custom and decency the Usurper Cromwell feasted at the Lord Mayor's, riding in triumph through the City," while the Evelyns make their Easter Communion in a private house, there being "no such thing as Church Anniversaries." In July of that same year, 1654, John Evelyn visited Oxford at the end of the term, and supped at a magnificent entertainment in Wadham, invited by his "deare and excellent friend Dr. Wilkins," and, after a musical entertainment at All Souls next day, he "visited that miracle of a youth Mr. Christopher Wren, nephew of the Bishop of Ely." Two days later Evelyn tells us that he "dined at that most obliging and universally curious Dr. Wilkin's, at Wadham College. He was the first who show'd me the transparent apiaries which he had built like castles and palaces, and so order'd them one upon another as to take the honey without destroying the bees. These were adorned with a variety of dials, little statues, vases, etc., and he was so abundantly civil on finding me pleased with them as to present me with one of the hives. . . . He had above in his lodgings and gallery variety of shadows of all perspectives, and many other artificial, mathematical and magical curiosities, a way-wiser, a thermometer, a monstrous magnet . . . most of them of his owne and that prodigious young scholar Mr. Chrs. Wren, who presented me with a piece of white marble, which he had stain'd with a lively red very deepe, as beautiful as if it had been natural."

The acquaintance of Evelyn with the young scholar who had recently been made Fellow of All Souls grew fast into a friendship which lasted until the elder man's death in 1716.

CHAPTER IV

GRESHAM COLLEGE

Mr. Laurence Rooke,[1] Gresham Professor of Astronomy, vacating the Professorship for that of Geometry in 1657, the chair was offered to Christopher Wren, who, since he was but twenty-four, with the modesty which distinguished him, declined the honour on account of his youth. Oxford too had wrought her spell upon him, and he was unwilling to leave All Souls and his share in the researches of the "Philosophical Society," but his friends, urging him to reconsider his decision, finally overruled him to acceptance. The rough English draft of the inaugural address, which, according to prevailing precedent, he delivered in Latin, makes us regret that so few of his writings have come down to us, for his periods are often so sonorous, his phraseology so distinguished, as to remind us that he was a contemporary of Sir Thomas Browne. The speech is too long to quote entire, but his opening words are full of a formal diffidence which, later on, gives place to a passionate enthusiasm for his subject, and this is very characteristic of the man all through his long life. Tasks were continually thrust upon him, and, accepting them without eagerness, he threw his whole soul into their performance.

[1] Laurence Rooke (1622–62).

"Looking with respectful Awe on this great and eminent Auditory, while here I spy some of the *politer Genii* of our Age, here some of our Patricians, there many choicely learned in the Mathematical Sciences, and everywhere those that are more Judges than Auditors; I cannot but, with Juvenile Blushes, betray that which I must apologise for. And indeed I must seriously fear, but I should appear immaturely covetous of Reputation, in daring to ascend the Chair of Astronomy, and to usurp that big Word of Demonstration, *Dico:* with which (while the humble Orator insinuates only) the imperious Mathematician commands assent when it would better have suited the Bashfulness of my years, to have worn out more Lustra in a Pythagorean Silence."

Is not the genuine faltering of youth as yet untried in any post of responsibility revealed in spite of the formal phrase of conventional courtesy?

"I must confess," he continues, "I had never designed anything further, than to exercise my Reading in private Dust unless those had inveighed against my Sloth and Remissness, with continual but Friendly Exhortations, whom I may account the great Ornaments of Learning and our Nation, whom to obey is with me sacred, and who with the Suffrages of the worthy Senators of this Honourable City, had thrust me into the public Sand. That according to my slender Abilities, I might explain what hath been delivered to us by Ancients, concerning the Motions and Appearances of the Celestial Bodies and likewise what hath been found out of new by the Moderns, for we have no barren Age."

His boast is rather of his times than of himself or even of his country, and indeed, just as we have seen fellow-countrymen of opposite parties content for a while to sit side by side and assist one another towards wisdom, so, among the rival nations of Europe, men forgot disputed frontiers and warring traditions, and corresponded with one another in the common language: Latin.

The young professor goes on to deny any intention of troubling his audience with "a tedious encomium of Astronomy," which nevertheless he cannot refrain from declaring the most sublime of pursuits after pure mathematics, worthy indeed to stand "Queen Theology" herself in good stead, as he proceeds to prove in a curious digression concerning our Lord's three days' sojourn in the grave.

"Astronomy," he continues, "it is that enlarged both our Understanding and Habitation; hath given Politeness and consequently Religion and Laws to the barbarous World. He that looks upon that little Parcel of the World which the Ancients contented themselves with, and sees now, how we furrow the great Ocean, and gather our aromatick harvests from the remotest Parts of the Globe and can enjoy in our own Europe, whatever Thule or Aethiopia, the rising or setting Sun can produce, must needs rejoice that so much larger an Inheritance is fallen to Mankind, by the Favour of Astronomy. It was Astronomy alone that of old undertook to guide the creeping Ships of the Ancients, whenever they would venture to leave the Land to find a neighbour Shore; though then she was a humoursome guide and, often vailing the Face of Heaven with clouds, would cruelly leave them to the

Giddy Protection of Fortune, and, for the most part, only tossed them up and down and sported herself with their Ruin ; but, if she deign'd to show them one glimpse of a Star, if but of Alcor, or the least Albicant Spot of Heaven, it was enough to pave a way for them homeward through the Horror of the Waves and Night."

A mention of magnetics as the handmaid of astronomy gives an occasion for enthusiastic praise of Gilbert, the Physician of James I., of whom Christopher, in his young ardour of partisanship, says that Descartes "was but a Builder upon his Experiments."

He concludes his oration by an eloquent panegyric on London which he deftly turns to praise of the citizens to whose suffrages he owed the chair which he was then occupying for the first time. After recounting the benefits conferred on London by each planet in turn, he continues : "Lastly the Moon, the Lady of the Waters, seems amourously to court this Place.

> 'Atque urbem magis omnibus unam
> Posthabita coluisse Delo.'

For to what City does she invite the Ocean so far in Land as here ? Communicating by the Thames whatever the Banks of Maragnon or Indus can produce and at the Reflux warming the frigid Zones with our Cloth. . . . And now since Navigation brings with it both Wealth, Splendour, Politeness and Learning, what greater Happiness can I wish to the Londoners than that they may continually deserve to be deemed as formerly, the great Navigators of the World, that they may always be the Masters

of the Sea, and that London may be an Alexandria, the established residence of Mathematical Arts ? "

Dean Wren had not been spared to witness his son's triumph, for, the very year before Christopher's appointment to the Gresham Chair of Astronomy, his father, who, deprived of both his Rectories, had taken refuge with the Holders at Bletchingdon, there breathed his last, worn out by the unremitting malice of the Parliament. Of deprivation of his Deanery there is no formal record, but, after the second sacking of his house at Windsor in 1645, he would seem not to have returned there.

Although, no doubt, political affairs and the transference of many of the most distinguished members to appointments at Universities prevented any regular enrolment, the meetings of the London group—Boyle's " Invisible Society," of which the " Philosophical Society of Oxford " was an off-shoot—seems to have continued, though at irregular intervals, and Dr. Wilkins, whose old intimacy with the Elector-Palatine often brought him to Whitehall, kept the two societies in touch. Wilkins's power with the Parliament was the stronger for his recent marriage with the Protector's widowed sister, Robina French, and this fact would seem to have given him boldness to preach before the Lord Mayor in St. Paul's in 1656 from the text, " We are glad when we are weak and ye are strong," the gist of which sermon Evelyn thus summarises in his Diary : " However persecution dealt with the Ministers of God's Word, they were still bound to pray for the flocke, as it was the flocke to pray for and assist their pastors." This implicit admission of sympathy with the

deprived priests and deacons of the "distressed Church" leads Evelyn to call him "a most obliging person, who," he continues, "took great pains to preserve the Universities from the ignorant sacrilegious Commanders and Souldiers who would fain have demolished all places and persons that pretended to Learning."

Nor was it only his friends and such as he had promoted to honour who deplored Cromwell's violence, for, in his own household, his most dearly-loved daughter, Mrs. Claypole, was as staunch a Churchwoman as her sister, Lady Falconbridge. Among the new acquaintances whom Christopher Wren owed to his London appointment was Claypole, Cromwell's Master of the Horse. Like most men of his time, he had a pursuit as well as a profession, and it was a common love of mathematics which made intimacy possible between the Parliamentary captain and the brilliant young professor whose name sufficiently identified him with the King's cause. One day, when Christopher Wren was dining with the Claypoles, the Protector himself came in unexpectedly and, as his custom was, sat sullenly down without greeting any one of the company. Presently, recognising the Gresham professor, he said dryly: "Your uncle has been long in the Tower." "He has so, Sir," said Wren, "but he bears his affliction with great patience and resignation." "He may come out an he will," said Cromwell ungraciously. "Will your Highness permit me to take him this from your mouth?" asked Wren, still incredulous. "You may," was the answer. So Christopher hastened from the table to tell his uncle how his long captivity was over, only to learn to his surprise from the old man's lips "that this

was not the first time he had received the like Information from that Miscreant, but disdained the Terms projected for his Enlargement, which were to be a mean Acknowledgement of his Favour and an abject Submission to his detestable Tyranny; that he was determined to tarry the Lord's Leisure and owe his Deliverance (which he trusted was not far off) to him only."

Among the troubles and anxiety of the time, Christopher Wren, Robert Boyle, and others of whom mention has been made continued to meet, and it was no doubt Boyle's influence (since it is recorded that he despised astronomy) which led Wren to devote himself for a while chiefly to physics, which science lends itself to joint experiments more readily than does astronomy. Among Wren's boyish achievements we have already made mention of the weather clock, which he had exhibited to Sir Charles Scarborough, and now for a while he seemed to have devoted himself to meteorology with such success as to have been accounted by not a few the inventor of the barometer. Wren's invention was, however, merely a further development of an experiment of Torricelli's, made some ten years before and completed by Pascal. The Italian's aim was to prove that the rising and sinking of mercury in a tube had to do, not with the moon's pressure, but with the weight of the atmosphere, and Pascal confirmed the truth of this conclusion by comparing the rate at which mercury rose and sank as the enclosing tube was carried up and down hill.

Even more interesting, however, than his perfecting of Torricelli's invention is the solving by Christopher Wren in 1658 of the problem which Pascal, from his retreat at Port-Royal and under the pseudonym of Jean de Montfort,

challenged the mathematicians of England to answer by a certain day. He accompanied the challenge with a promise of a prize of twenty pistoles to the successful competitor. Christopher Wren solved the problem, but for some unexplained reason never received the prize, while the problem from Kepler which he set in return seems never to have been solved. Nor was this his only communication with Pascal, for he corresponded with him on the subject of the cycloid, on which Wren wrote four tracts at this time. Pascal was just then considering how to determine the curve made in the air by the nail in a coach-wheel, supposing the wheel to be in motion on a perfectly flat surface.

In spite of the antagonisms of rival schools, the tendency of philosophy has at all times been towards reconciliation, and never has this tendency been more remarkably exemplified than in the latter half of the seventeenth century. Cartesianism, the chief result of which was the impressing upon the minds of men the conviction that the gulf between the things that are and the things that seem was within their power to bridge over—that underlying all superficial anomaly there was a vast discernible method—linked together in a mental intimacy of amazing closeness the representative thinkers of all European nations, men whose origin and circumstances might fairly have been expected to keep them apart even as fellow-countrymen. Spinoza, a Dutchman born at Amsterdam a few weeks after Christopher Wren, a persecuted Jew in danger of his life, by trade a cutter of lenses; Malebranche, the Oratorian priest, tolerant of St. Augustine's extremest intolerance; Boyle, the Irish noble, travelling through

Europe, like others of his rank, in the care of a tutor, and practising to the end of his life a narrow Evangelical piety; how pure from particles of prejudice that air must have been which these could breathe with equal freedom! Just as the Reform, for all the narrow sectarianism of its leaders, had burst the bars and cast down the conception of a God whose love was for favoured nations, so now the immense expansion of the visible world made men no longer conceive of the sun's rays as converging for the benefit of this earth alone.

But Wren's lectures, of which no record remains, were interrupted before a year was out by the public disturbances which broke out after the death of Cromwell. Gresham College was taken violent possession of by the soldiers and the professors dispersed. Wren appears to have gone at once to Oxford, and a letter addressed to him there by his friend, Sprat, in 1658, contains a lively account of the condition of the building in which he had delivered his lectures.

"This day," writes the Doctor, "I went to visit Gresham College, but found the Place in such nasty Condition, so defiled, and the Smells so infernal that, if you should now come to make use of your Tube, it would be like Dives looking out of Hell into Heaven. Dr. Goddard[1] of all your colleagues keeps possession, which he could never be able to do had he not before prepared his Nose for Camp-perfumes by his Voyage into Scotland, and had he not such Restoratives in his Cellar. The soldiers by their Violence which they put on the Muses' seats have made themselves odious to all the ingenious World; and if we

[1] Jonathan Goddard (1617–75), Gresham Professor of Physic. With Cromwell in Ireland as chief physician 1649, and Scotland 1650.

pass by their having undone the Nation, this crime we shall never be able to forgive them; and as for what concerns you they have now proved that their Pretensions to Religion were all feigned, since, by hindering your Lectures, they have committed so manifest an offence against Heaven. Yet your many friends here hope you will hereafter recompense this unhappy leisure which is afforded you by making those admirable Discourses which you had intended for that Place more public and that you will imitate Cicero, who being hindered from pronouncing his Oration: "Pro Milone" by the guard of Pompey's soldiers that encompassed his chair, set it forth afterwards more perfect than all the rest."

Matthew Wren writes from London on October 25 of that same year:

"Dear Cousin,—Yesterday being the first of the term I resolved to make an experiment whether Dr. Horton [Professor of Divinity] entertained the new Auditory of Gresham with any Lecture, for I took it for granted that if his Divinity could be spared your Mathematics would not be expected. But at the gate I was stopped by a man with a Gun who told me there was no Admittance on that Account of the College being reformed into a Garrison. Then, changing my Pretension, I scarce got permission to go in to Dr. Goddard, who gave me Assurance enough that none of your Colleagues intend to appear this term, unless the Soldiers be removed of which there is no Probability. Upon these Premises it is the Conclusion of all your Friends, that you may save that Journey hitherto unless some other Occasion call you and for these I expect

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you will make me your Agent, if they be such as I am capable of dispatching, but it will not perhaps be amiss to take from hence the Occasion of a short and civil letter to the Committee, signifying that you hope you have not deceived their Expectations, and that you are ready to attend your Duties but for this publick Interruption and Exclusion from your Chamber or what else you will that looks towards this. . . ."

In September 1659, John Evelyn writes: "I communicated with Robert Boyle, my proposal for erecting a philosophic mathematic College.

"*Oct.* The Armie now turned out of the Parliament. We had no Government in the Nation; all in confusion; no Magistrate either owned or pretended by the souldiers, and they are not agreed. God Almighty have mercy on and settle us."

That John Evelyn was an intimate friend of Christopher Wren's must be our excuse for continuing to quote from his Diary. The entry for Dec. 10, 1659, is as follows: "I treated privately with Morley, the Lieutenant of the Tower, and in greate trust and power, concerning delivering it to the King, and the bringing of him in, to the greate hazard of my life, but the Colonel had been my scholefellow and I knew would not betray me.

"*Jan.* 22, 1660. I went this afternoon to visit Colonel Morley. After dinner I discoursed with him, but he was very jealous and would not believe Monk came in to do the King any service; I told him he might do it without him and have all the honour. He was still doubtful and would resolve on nothing yet."

Monk was now supreme, and on March 15 the timid Colonel Morley received peremptory orders to release Matthew Wren, Bishop of Ely, who had been eighteen years a prisoner. There must have been as much of sorrow as of joy in the old man's heart as he left the Tower. Imprisoned without trial at the age of fifty-eight, he was set free at seventy-five, to find few indeed of his family and friends surviving, and the Church for which he and they had suffered and spent themselves in a condition of almost ruin. He had heard the bell of St. Peter's toll for Laud and Strafford as he lay helpless between the walls from which they passed out but to die; news had come to him in his cell of violence and murder done to the royal master he had served so faithfully, the fear of death must have haunted him, his health failed, but his faith remained unshaken. During his captivity he had made a vow that if it should please God at some future time to restore him his patrimony "he would return unto him by some holy and pious employment that summe and more which by way of his gracious providence was unexpectedly conveyed in unto me during my eighteen years' captivity . . . from sundry noble and truly pious Christians." No sooner did release come than the scheme took the definite shape of a chapel for Pembroke, Cambridge, the college associated in his mind with early undergraduate days and the influence of Lancelot Andrewes.

To return to Evelyn. On May 3 he writes: "Came the most happy tidings of His Majesty's gracious Declaration to the Parliament, Generalls and people, and their dutiful acceptation and acknowledgement.

"*May* 8. This day was His Majesty proclaimed in London.

"*May* 24. Came to me Colonel Morley about procuring his pardon, now too late seeing his error and neglect of the counsel I gave him.

"*May* 29. This day His Majesty Charles II. came to London after the long and sad exile and calamitous sufferings both of the King and Church. I stood in the Strand and beheld it and blessed God. And all this was done without one drop of bloodshed and by that very Army that rebelled against him."

It can only have been possible on account of the good-will of the nation to restore order and return to former methods of government in so short a time. One of the first posts to which the King reappointed was that of the Deanery of Windsor, conferred on Dean Ryves, of Chichester; and, in August 1660, the son of the late Dean, Christopher Wren, journeyed to Windsor and gave over to the new Dean's care the Register and Note-books of the Garter, which had been committed to his keeping by his father. Deplorable vestiges of past violence were still conspicuous on the Deanery and in St. George's, and it was sad to think with how faint a hope of the King's return Dean Wren had breathed his last but three years before. By the autumn Gresham College had been cleansed and repaired, and Christopher Wren could resume his lectures. It was after one of these, on Nov. 20, 1660, that the learned audience gathered round the youthful professor and, in his private room, proposed the founding, under royal patronage, of a Philosophical Society for the promotion of Physico-Mathematical Experimental Learning on the lines of the informal meetings in London and

Oxford. As before, political differences were ignored, and Wilkins and Matthew Wren, Scarborough and Dr. Goddard consented to be of one mind in the considering of subjects of national interest such as shipping, or of merely scientific value such as comets.

In 1661 Christopher resigned his Gresham College professorship for the Savillian Chair of Astronomy at Oxford, which his friend Seth Ward had just vacated on being appointed to the See of Salisbury. The new Savillian Professor would seem to have given his special attention to the study of the moon, since, in Dr. Grew's *Catalogue of the Musæum of the Royal Society*, Wren is mentioned as having "composed a Lunar Globe representing not only the spots and various degrees of whiteness upon the surface, but the Hills, Eminences and Cavities moulded in solid work. The Globe thus fashioned into a true Model of the Moon as you turn it to the light, represents all the menstrual Phases with the Variety of Appearances that happen from the Shadow of the Mountains and Vallies." The fame of this model reached the King's ear, and resulted in the following letter:

"To Dr. Wren, Savillian Professor of Astronomy at Oxford.

"Much Honoured Friend,

"The King hath commanded us to lay a double charge upon you in his Name to perfect the Design wherein he is told you have already made some progress to make a Globe representing accurately the figure of the Moon as the best Tube represented; and to delineate by the Help of the Microscope the Figures of all the insects and small living

creatures you can light upon, as you have done those you presented to His Majesty. If it were needful to add any further Excitement to your Industry we should tell you how much our whole Society is rejoiced that His Majesty has a just Esteem of your Parts, and honours you with his Commands, which we are confident will prevail with you, and therefore we reserve all other Motives for other Things, only we expect you will signify to us your Readiness to comply with His Majesty's pleasure, and you may be sure we will improve it as much to your Honour and Advantage as is possible for, much honoured Friend,

"Your most affectionate humble servants,

"R. Moray & P. Neile.

"Whitehall, 17th *May*, 1661."

Wren seems to have begged to be excused from the task of microscopic drawing, yet the King's graciousness is again expressed in a letter of Sir Robert Moray's,[1] dated August 13:

"My Worthy Friend,

"Since my last I told the King you had finished your Lunar Globe and desired to know what are his further Commands; and he commanded me to let you know he would have you bring it hither to him. I have also to tell you that in Compliance with your Desire to be eased of the further Task of drawing the Figures of small Insects by the Help of the Microscope, we have moved his Majesty to lay his Commands on another, one Van Der Diver and

[1] See note on p. 50.

we have also persuaded Mr. Hook[1] to undertake the same Thing. This is all the Trouble you shall now have from, my worthy friend,

"Your real humble Servant,

"R. Moray."

The completed model was accordingly given into the King's hands by the artist himself in private audience, and placed in the royal cabinet. It was poised upon a curiously turned pedestal of *lignum vitae* inscribed, with the grandiloquence worthy a latter-day Imperialist:

"To Charles II.
King of Great Britain, France, and Scotland,
for the expansion of whose Dominions since no
one Globe can suffice,
Christopher Wren dedicates another in this
Lunar Sphere."

We gather from the preface to Hook's *Micrographia* that it was Dr. Wilkins who advised the selection of Hook for the task for which Christopher Wren lacked either inclination or leisure. Hook writes as follows: "By the Advice of that excellent man, Dr. Wilkins, I first set upon this Enterprize, yet still came to it with much Reluctance because I was to Follow the Footsteps of so eminent a Person as Dr. Wren, who was the First that attempted

1 Robert Hook, or Hooke (1635–1703), a schoolfellow of Wren's at Westminster, a chemist and geometrician. As Surveyor of London he designed several public buildings, *e.g.*, Bethlehem Hospital.

any Thing of this Nature; whose original Drafts do now make one of the Ornaments of that great Collection of Rarities in the King's Closet. This honour which the first Beginnings of this Kind have received to be admitted into the most Famous Place of the World did not so much incourage as the Hazard of coming after Dr. Wren did affright me; for of him I must affirm that since the time of Archimedes there scarce ever met in one Man, in so great a Perfection, such a mechanical Hand and so philosophical a Mind."

CHAPTER V

OXFORD: THE ROYAL SOCIETY

"Upon the Restoration of the King," writes Dr. Sprat, "Philosophy had its Share in the Benefits of that glorious Action; for the Royal Society had its Beginning in the wonderful pacifick Year 1660, and as it began in that Time when the Kingdom was freed from Confusion and Slavery, so in its Progress, its chief Aim hath been to redeem the Minds of Men from Obscurity, Uncertainty and Bondage."

I have spoken of an informal meeting in Wren's rooms at Gresham College, at which the idea of inviting the King to grant a charter to the Society was first mooted by that group of philosophers which, among its members and correspondents, already included nearly all the men of scientific distinction then living in England. This meeting, the first of those weekly gatherings which it inaugurated, took place on November 28, 1660, and soon after (on February 5, 1661) his appointment to the Savillian Chair of Astronomy at Oxford obliged Wren to vacate his Gresham professorship and take up his residence at the University, where, on the following 12th of September, he, not yet thirty, was created Doctor of Laws, Cambridge conferring the like honour upon him shortly after.

Charles II. appears to have set the seal of royal favour upon the petitioners' project within the space of a week, and, in October of the following year (1661), Sir Robert Moray[1] acquainted the Society that "hee and Sir Paul Neile kiss'd the King's Hands in the Company's Name." The members seem indeed to have been spoken of as the "Royal Society" before the formal enrolment by charter on July 15, 1662, and again on April 15, 1663.

Meanwhile the premature death, in June 1662, of his friend and collaborator, Laurence Rooke, who had been among the most zealous in the scheme for establishing the Society on a permanent footing, threw additional work upon Wren. Isaac Barrow[2] was appointed to succeed Rooke in the Geometrical Chair of Gresham, and, in his inaugural oration, paid one of those spontaneous tributes to Wren's powers the number and ungrudging tone of which go so far to prove that, to the Astronomy Professor's other gifts, there had been added that great one of rousing rather admiration than jealousy in the hearts of his fellows. "One there is," said Barrow in the course of his speech, "whose name common gratitude forbids me to pass over, whom I know not whether most to admire for his divine genius or for the sweetness of his disposition (though this I dare assert that no one's promise ever roused such hopes whose performance so little disappointed) once a prodigy of a boy, now a miracle of a man, and, lest I seem to exaggerate, it will suffice if I name the great and good Christopher Wren of whom I will say no

1 Sir Robert Moray (d. 1673), a learned geologist and chemist of Royalist leanings.

2 Isaac Barrow (1630–77), divine and mathematician.

more since his merit attracts the eyes of the whole world and is known best of all to you so that his fame is diminished rather than enhanced by praises by which I may chance to offend the modesty of a living man and, in dealing with so great a subject, but display my own shortcoming."

But it is not in direct eulogies spoken or printed that we find the strongest evidence of the high esteem in which Wren's parts were held by his contemporaries, but rather in the way in which, whenever anything had to be done demanding special judgment and promptness, they had recourse to his aid, even when the matter lay outside the usual scope of his varied attainments ; when, for instance, the royal consent having been obtained, a formal preamble for the promised charter must be drawn up and submitted to his Majesty, it is Wren, one of the youngest members and not by calling a writer, who is deputed to the task.

Tradition has made a certain fulsomeness unavoidable in such documents, nor does Wren's draft fall behind tradition. It is too long to quote here, save for a few phrases of characteristic vigour at the beginning, and later an interesting differentiation between the learning of past ages which must form the curriculum of the schools and that learning by life which is a pursuit for grown men.

"CHARLES ETC.

"Whereas among our regal hereditary Titles (to which by Divine Providence and the Loyalty of Our good Subjects we are now happily restored) nothing appears to Us more august or more suitable to Our pious Disposition

than that of Father of Our Country, a Name of Indulgence as well as Dominion, wherein We would imitate the Benignity of Heaven, which in the same Shower yields Thunder and Violets and no sooner shakes the Cedars but, dissolving the Clouds, drops Fatness, Our Reason hath suggested to Us and Our own Experience on Our Travels in foreign Kingdoms hath abundantly confirmed, that we prosecute effectually the Advancement of natural experimental Philosophy, especially those Parts of it which concern the Increase of Commerce by the Addition of useful Inventions tending to the Ease, Profit or Health of our Subjects, which will best be accomplished by a Company of ingenious and learned Persons well qualified for this Sort of Knowledge, to make it their principal Care and Study, and to be constituted a regular Society for this Purpose, endowed with all proper Privileges and Immunities. . . .

"Not that herein we would withdraw the least Ray of our Influence from the present established Nurseries of good Literature and Education founded by the Piety of our royal Ancestors and others and those Laws which as we are obliged to defend, so the Holy Blood of Our Martyred Father hath inseparably endeared to Us; but that we purpose to make further Provision for this Branch of Knowledge likewise; natural experimental Philosophy."

To about the same period (October 1661) belongs a letter of Wren's to Sir Paul Neile, who had apparently written to ask him in the Royal Society's name to give his friends at Gresham College some idea of his latest hypothesis of Saturn. Wren's reply, which was read aloud

by the President, Lord Brouncker,[1] at a subsequent Monday meeting, is of contents too purely scientific to quote, save for one paragraph in which there occurs an expression which calls for notice. "You know," writes Wren, in the formal epistolary diction of the day, "of what Prevalency your Commands alone are with me although they had not been seconded by the Votes of the best Society in Europe; to disobey which would not be Rudeness alone but Gothism and Enmity to the Progress of Learning." This use of Gothic as synonymous with "barbarous" is characteristic both of the man and his time.

The year 1662 may in some sort be accounted the turning point of Wren's career, for then it was that Charles II. began that series of royal favours which turned his thoughts definitely towards architecture. There is no doubt that John Evelyn's influence with the King had much to do with an appointment offered to Wren at the time of Charles II.'s marriage in the late spring of 1662 to Catherine of Braganza. Part of that princess's dowry was the town of Tangier, of which the harbour and fortifications were reported in so ruinous a condition as to leave the place a prey to inroads by the Moors. The King offered Wren every inducement should he consent to go out, survey, and report. He should receive a handsome salary, a dispensation from the duties of his professorship, and the reversion of the Surveyorship-General of the King's Works on the decease of Sir John Denham, who in declining health then held the appointment. A letter to Christopher Wren from his cousin Matthew, now secre-

1 William, second Viscount Brouncker, first President of the Royal Society (1620?–1684).

tary to Lord Chancellor Hyde, conveyed the offer, which, however, Wren declined on account of his health, "praying his Majesty to command his Services in England." The King's favour towards him was, however, so great, his determination to enlist such able services so absolute, that he almost immediately created an office for him, that, namely, of Assistant to the Surveyor-General. Sir John Denham, who held the latter office in succession to Inigo Jones, had apparently no qualification save a long record of loyalty, but Charles II., while loth to dismiss a faithful servant of his father's, was none the less determined that the tasks now set the Surveyor-General should be better executed than they could be by one whom John Evelyn described as "more of a poet than an architect." Denham does not appear to have raised any objection to this virtual supersession, and may indeed be credited with having known just enough about architecture to realise that the work demanded of him, the repair of St. Paul's and Windsor Castle and the completion of Greenwich Hospital, of which but a fragment had been built by Inigo Jones, was beyond his powers. Yet it is impossible to account except by Evelyn's influence for the King's selection of a man unknown as an architect, who in the very charter of the Royal Society itself is entered as "Christopher Wren, Doctor in Medicine, Saville Professor of Astronomy in our University of Oxford." In considering this matter we must bear in mind that the men of the seventeenth century rarely specialised, so that there is no comment of wonder in any records of the time that Wren should have cared to become as skilled with the scalpel as with the telescope, while, in the records of the Royal

Society in those early days, accounts of experiments on living animals performed by him and his friend Robert Boyle, ground-plans for improved beehives, new theories concerning ventilation and the phases of Jupiter's moons, succeed one another with giddy rapidity. That the King should have needed no more evidence than Evelyn's word before setting a man without practical experience as an architect to complete and repair his Palace of Windsor, and the Cathedral-church of his capital must, however, surely be attributed as much to the magic of Wren's own personality as to his friend's faith in him and power with the King. There was too a tradition of good building in his family. His father the Dean had planned some addition to Windsor at Charles I.'s suggestion, and the Bishop of Ely had rebuilt Peterhouse, Cambridge, and added a chapel.

Nor, if we pause to consider, shall we find it very strange that Christopher Wren should have had no architectural practice in his early life. His years from twenty to thirty were spent under the cloud of the Commonwealth, when, save for a few meeting-houses, no need for building seems to have arisen. The curious curse of ugliness which would seem to have been called down upon sectaries early in the Christian era and never again lifted—which, however spiritual their teaching and pure their practice, has ever hindered them from making their places of assembly other than ungracious—must have been cruelly conspicuous in Cromwell's London. Not content with seizing the church buildings and appropriating them to their preaching, the Roundheads raised conventicles here and there, wooden buildings evidently, with no attaching beauty to endear them and conduce to their preservation.

Scarcely had young Dr. Wren entered upon his new duties when two architectural commissions were given him in his private capacity. The first of these came from Gilbert Sheldon, but lately consecrated Archbishop of Canterbury, who, distressed at the desecration of the University-church of St. Mary's, Oxford, consequent on the custom of keeping the Acts there, resolved to devote much of his fortune, a sum of no less than sixteen thousand pounds, to the building of a theatre in which the Acts should be more appropriately held. This was in 1662, and, in April 1663, Wren was already exhibiting a model of the theatre he planned to the Royal Society. The building was, however, not completed till 1669, and meanwhile his uncle the Bishop, who had already tested his young nephew's architectural powers by calling him to design a doorway and lobby at Ely, desired him to prepare plans for his memorial-chapel at Pembroke, Cambridge. This was ready for consecration by St. Matthew's Day, 1665, and is therefore, with the exception of the doorway at Ely, Christopher Wren's first architectural work. We shall return to it hereafter, for as yet we have made no mention of that day of 1662 which, so far as Wren is concerned, must be deemed the most important—that, namely, upon which, on the invitation of the Dean and Chapter, he undertook to survey St. Paul's. Whether he was summoned after his appointment as a court official, or, just before it, on account of his reputation as a geometrical expert, is not very clear, but his report, which he did not submit until three years later, has come down to us.

Meanwhile, as we picture Wren going carefully over the old building upon whose site he will some day raise his

PLATE 4.—DOORWAY, NORTH TRANSEPT, ELY CATHEDRAL

To face p. 56

masterpiece, we must bear in mind how very much of the glory of old St. Paul's had passed away before his generation. The deplorable condition to which Protestant violence and neglect had reduced the Cathedral of London had been a sore grief to Charles I.; and, at Laud's suggestion, a commission had been appointed in 1630 to inquire into the state of St. Paul's. Inigo Jones, to whom the work of restoration was entrusted, with his strong Italian bias, was at no pains to preserve such of the Gothic ornament as was not irreparably decayed, and his restoration, which extended over a period of nine years, seems to have mainly consisted in applying a new coat of ashlar to the outside walls, while the west, an elevation which was entirely ruinous, he replaced by a classic portico of one great Corinthian order, majestic in itself but completely incongruous. This portico, adorned, not with the customary pediment, but, after the manner of Italian villas, with a balustrade and statues, was erected at the King's sole cost, and was of the unusual depth of fifty feet, being, as Dugdale has it, intended "to be an Ambulatory for such as usually walk in the Body of the Church and disturb the solemn Service of the Choir." It is indeed indicative of the decay of religious feeling consequent on the influence of Continental reformers that the very nave of St. Paul's had come to be regarded as a kind of exchange for the transaction of business and the hiring of apprentices. To quote once more from Dugdale, "during the Usurpation, the stately Portico being converted into Shops for Seamstresses and other Trades with Lofts and Stairs ascending thereto, the Statues had been despitefully thrown down and broken in pieces." Nor did the sacri-

legious contempt of the Covenanters end here, for they stabled horses in the nave and, screening off the choir, made it over to one of their preachers, while to the oratory of another they allotted the crypt.

Thus hacked about and defiled did Wren find St. Paul's. He seemed to have gone carefully to work, calling on his friends for advice and making a thorough examination, the resulting report of which, since it was not published until 1665, must find place in another chapter.

That in these days of difficult travel such a press of business in London could not fail to interfere with attendance at Oxford would be too obvious to note, were it not that a letter of Sprat's gives a lively picture of Wren's powerlessness to achieve the omnipresence which the authorities appear to have expected. Dated from Oxford, 1663, the letter is as follows:

"My Dear Sir,—I must confess I have some little Peek against you; therefore am not much displeased that I have this occasion of telling you some ill news. The Vice Chancellor did yesterday send for me, to enquire where the Astronomy Professor was, and the Reason of his Absence, so long after the Beginning of the Term. I used all the Arguments I could for your Defence. I told him, that Charles the Second was King of England, Scotland, France and Ireland; that he was, by the last Act of Parliament, declared absolute Monarch in these his Dominions; and that it was this mighty Prince who had confined you to London. I endeavoured to persuade him that the Drawing of Lines in Sir Harry Saville's[1] School was not altogether

[1] Founder of the Savillian professorship, then held by Wren.

of so great a Concernment for the Benefit of Christendom as the Rebuilding of St. Paul's, or the Fortifying of Tangier; for I understood those were the great Works in which that extraordinary Genius of yours was judged necessary to be employed. All this I urged; but, after some Discourse, he told me that he was not to consider you now as Dr. Bayley,[1] for so he owed you all kindness, but as *Vice Chancellor;* and under that Capacity he most terribly told me, that he took it very ill that you had not all this while given him any Account what hindered you from the Discharge of your Office. This he bid me tell you, and I do it not very unwillingly, because I see that our Friendships are so closely tied together, that the same Thing which was so great a Prejudice to me (my losing your Company all this while here) does also something redound to your Disadvantage. And so, my dear sir, now my Spite and Spleen are satisfied, I must needs return to my old Temper again, and faithfully assure you, that I am, with the most violent Zeal and Passion,

"Your most affectionate,

"and devoted Servant,

"THOMAS SPRAT.

"(*Vice-Chancellor of the University, &c.*)"

In the late summer of 1663, Charles II. appears to have signified his royal pleasure to visit the home of the Royal Society, Gresham College in the City of London, and although Wren is now back at Oxford, Lord Brouncker, the President, at once writes to him for suggestions

1 Dr. Richard Bayley, President of St. John's College and Dean of Salisbury.

concerning his Majesty's entertainment. Wren answers him at considerable length, his letter, which is too technical to quote complete, exhibiting a very shrewd perception of the limitations of the "lay" mind without the writer's betraying a trace of ostentation or self-complacency.

"*July* 30, 1663.

"My Lord," he writes, "The Act and Noise at Oxford being over, I retir'd to myself as speedily as I could to obey your Lordship and contribute something to the Collection of Experiments designed by the Society, for his Majesty's reception. I concluded on something I thought most suitable for such an Occasion; but the stupidity of our Artists here makes the apparatus so tedious, that I foresee I shall not be able to bring it to anything within the Time propos'd. What in the meanwhile to suggest to your Lordship I cannot guess; the solemnity of the Occasion, and my Solicitude for the Honour of the Society, makes me think nothing proper, nothing remarkable enough. 'Tis not every Year will produce such a Master experiment as the Torricellian, and so fruitful of new Experiments as that is, and therefore the Society have deservedly spent much Time upon that and its Offspring. And if you have any notable Experiment that may appear to open new Light unto the Principles of Philosophy nothing would better beseem the Pretensions of the Society, though possibly such would be too jejune for the Purpose, in which there ought to be something of Pomp. On the other Side to produce Knacks only, and Things to raise Wonder, such as . . . even jugglers abound with, will scarce become the Gravity of the Occasion; it

must therefore be something between both, luciferous in Philosophy and yet whose Use and Advantage is obvious, and without a Lecture ; and besides may surprise with some unexpected Effect, and be commendable for Ingenuity of the Contrivance. Half a dozen Experiments thus qualified will be abundantly enough for an Hour's Entertainment ; and I cannot believe the Society can want them if they look back into their own Store ; for myself I must profess freely I have not anything by me suitable to the Idea I have of what ought to be performed before such an Assembly. Geometrical Problems and new Lines, new Bodies, new Methods, how useful soever, will be but tasteless in a transient Show ; New Theories or Observations or Astronomical Instruments either for Observation or facilitation of the Calculus are valuable to such Artists only who have particularly experimented the Defects that these Things pretend to supply.

" Experiments in Anatomy, though of the most value for their Use, are sordid and noisome to any but those whose Desire of Knowledge makes them digest it. Experiments for the Establishment of Natural Philosophy are seldom pompous. It is upon Billiards and Tennis Balls ; upon the purling of Sticks and Tops ; upon a Vial of Water or Wedge of Glass that the great Descartes hath built the most refined and Accurate Theories that Human Wit ever reached to and certainly Nature in the best of her Works is apparent enough in obvious Things, were they but curiously observ'd ; and the Key that opens Treasures is often plain and rusty but unless it be gilt 'twill make no Show at Court."

He goes on to describe various inventions lending them-

selves to popular exhibition: a weather-wheel which automatically records meteorological changes; an artificial eye at least as big as a tennis-ball, which shall exhibit some of the mechanism of sight; a compass to guide travellers by coach, the vibration caused by the roughness of the way provided against by an elaborate system of springs. This Dr. Wren thinks might prove an acceptable present for his Majesty; and the inventor goes on to suggest that, by means of a window-like aperture in the floor, the traveller might further entertain himself by consulting the way-wiser, that kind of cyclometer, his boyhood's invention, which should be "fixed to the pearch."

Nothing surely could be less arrogant than the conclusion of his letter:

"My Lord, if my design had been perfect, I had not troubled your Lordship with so much Tattle, but with something perform'd and done. But I am fain in this Letter to do like some Chymist who when Projection (his fugitive Darling) hath left him threadbare is forced to fall to vulgar Preparations to pay his Debts."

There has come down to us another letter of Sprat's to Wren, written in this same year 1663, but it is of such length that even that prolix correspondent devotes his first page to an apology for the rambling of those that follow. It gives, however, so pleasant an idea of the unassuming companionableness which made Wren's company so dear to his friends that we cannot altogether pass it over. "Now then," writes Sprat, "you may recollect we went lately from Axeyard to walk in St. James's Park and tho' we met not the incomparable Person whose Company

we sought,[1] yet he was enough present in our Thoughts to bring us to discourse of that in which he so much excels, the Wit of Conversation. Some part of what you then said, you shall now hear over again; for tho' I have a most treacherous Memory in other Matters, yet my Love to Kit Wren makes it always faithful in preserving whatever he commits to it. The Wit therefore of Discourse is as different among the several Parts of Mankind as the temper of their Mind and Constitution of their Bodies; and so it is to be divided into general and particular, the general is that which consists of Terms and similitudes and which are received by many Nations.

"The particular Wit, is that which arises from the frequent Meetings of private Assemblies; and this too is capable of infinite divisions; for there is hardly the least Company in the World which rendezvouses together, but has its Common Sayings, Figures, Characters and Observations, which are great Raillery in their proper Compass, but tasteless to Strangers. This is evident in several Shires of England. When I was in the North, there was a Buffoon that was a dreadful Droll among the Yorkshire gentlemen and yet scarce spoke a grain of salt to our Southern Tastes. This likewise appears in several Professions of Men. The Lawyers will laugh at those jests in the Temple which it may be will not move us at Charing Cross. And it is likely that Tom Killigrew[2] himself would not seem good Company at a Table of Benchers. The Wit beyond Fleet Bridge has another Colour from that on this Side. The very Watermen on the Bank-Side have their

[1] Probably Sir William Petty. (Elmes.)
[2] Thomas Killigrew (1612–83), a dramatist.

Quipps, and their Repartees, which are not intelligible but upon the Thames.

"The Wit of Discourse is (to speak magnificently) the greatest Art about the smallest Things; For to confess a Secret, as Sir W. Davenant's[1] Way differs very little from Frank Bowman's, and yet the one is the gayest and the other the most insipid; so the true Pleasant talk and the vainest tattle are not very much distinguished: the Subjects of both of them are a thousand little Trifles and the Difference lies only in the Management. Nor does this meanness of Matter prejudice the Art for then, it would follow that your Divine Works in the King's Cabinet are the worst because they are the Description of a Louse, a Flea, and a Nit. This Wit therefore is made up of many inexpressible excellences. It must have a general evenness of Humour; it must perfectly observe all the Rules of Decency, to know when enough is said; to forbear biting things not to be touched; to abstain from abusing honest and virtuous Matters.

"It must apply itself to the Condition and Inclination of the Company. It must rather follow the lead: it must not always strain to speak extraordinary Things: for that is a constant walking on the Ropes, in which though a Man does often well, yet he may have one Fall, that may chance to break his neck; It must allow everyone their Term of speaking, for it is natural to all, better to love their Company who give them occasions of speaking well, than those that do it themselves. It must always mingle Stories with Argument, pleasant Things with Solemn; It must vary the Subject often, not pump itself dry at once, but to

[1] Sir William Davenant (1606–68), a court poet and stage-manager.

speak Truth the Perfection of this glorious Faculty, without which Life were no Life, belongs not so much to man, as to the softer Sex: for they have usually their heads less disturbed with busy thoughts, their Minds are quicker and readier for new Impressions, they talk more of circumstantial things, they sit longer together, and (which you used to say is of great Concernment in our northern Phlegmatick Climate) they keep their feet warmer and drier, and go less into the moist and open Air.

"To go on then in my first Purpose. Wit consists in a right ordering of Things and Words for Delight. But—stay—now I look about me what Need have I to go any farther? You are without question already sufficiently tired and so my End is obtained: and then it will be useless to speak more on this Subject, seeing the Age wherein we live. But while others are exalting real dangerous Trophies of their Wit I will be content to give but one Instance of my own; but it is such that no Critick can lay hold on; and it is that I infinitely love one of Sir Harry Savil's Professors; You may easily guess which I mean or whether it be to Dr. Wren or yourself that I am,

"A most affectionate servant,

"Tho. Sprat."

During the year 1664 the Royal Society, finding it advisable, if not to specialise at least to concentrate, divided its members into committees, eight in number, representing the following divisions of knowledge as derived from experiment: (1) Mechanical; (2) Astronomical and Optical; (3) Anatomical; (4) Chemical; (5) Geological; (6) for Histories of Trade; (7) for Collect-

ing all the Phenomena of Nature hitherto observed, and all Experiments made and recorded; (8) for Correspondence. To no less than three of these committees—Nos. 1, 2, and 7—was Dr. Wren appointed by his colleagues; and how little his architectural activity had been allowed to interfere with the satisfying of his great curiosity concerning the heavens is evident from an entry dated October 24, 1664, in Evelyn's Diary:

"I went," writes Evelyn, "to visit Mr. Boyle whom I found with Dr. Wallis and Dr. Christopher Wren in the Tower of the Schools with an inverted Tube or Telescope, observing the Discus of the Sun for the transit of Mercury that Day before it. . . . Thence to the New Theatre designed by that incomparable Genius, my worthy Friend, Dr. Christopher Wren, who showed me the Model, not disdaining my advice."

There is an entry in John Evelyn's Diary about this time, which, though not immediately concerning Wren, is yet chiefly interesting on his account. It records the presentation to the Vice-Chancellor of Oxford University of John Evelyn's recently published translation of a famous French treatise on architecture; and the writer adds that he had presented a copy to the King also, who expressed great interest in the book and admiration for the engravings which illustrated it. The book of which the famous diarist had made a translation was entitled *Parallèle de l'Architecture antique et de la moderne*, and had been published in France some fifteen years before. The author, Roland Fréart, Sieur de Chambray, had, in 1640, been commissioned by Mazarin to go and collect works of

art in Italy for the adornment of the royal palaces, and had published his *Parallèle* ten years later. Evelyn, in his dedicatory preface, says of the book that it contains "the marrow and very substance of no less than ten judiciary authors, Palladio, Scamozzi, Serlio, Vignola, Barbaro, Cataneo, L'Alberti, Viola, Bullant and de Lorme," and it is important to note that, at the very time of this visit to Oxford, Evelyn was distributing this book among his friends. That he should give it to that one among them whose talent as a builder it had been Evelyn's special desire to foster seemed probably too obvious a thing to record in his journal; that the book did come into Wren's hands we know from the postscript of that letter from Paris which he wrote the following year, this book of Fréart's and Serlio's *d'Architettura* being the only works treating of architecture of which Wren has recorded his reading.

Hitherto we have said nothing concerning the fact that, to his other accomplishments, Christopher Wren added such skill with the graving-tool that, among his contemporaries, he was commonly credited with the invention of the process known as mezzotint, an inaccuracy no doubt partly prompted by a patriotic desire to derive from an Englishman an art in the practice of which Englishmen so notably excelled. The idea originated in the fact that Prince Rupert, the first royal member of the Royal Society, exhibited at one of the earlier meetings which he attended—exhibited, with special care, to Dr. Wren—his own engravings executed in the way which the French describe as the "black manner" and the English as mezzotint. Whether Prince Rupert claimed the invention as his own, or merely allowed it to be attributed to him by

flatterers, will probably never be known, but it is certain that the men of his day gave the credit of it to him or to Wren as they pleased, while it is no less certain that the actual discoverer was one Ludwig von Siegen, an officer in the German army, who, lighting upon it in 1642, communicated the secret to Prince Rupert at Brussels some twelve years later.

It is manifest that, in a life as active as Wren's, there was little leisure for the practice of an art as laborious and mechanical as engraving, but the illustrations which he prepared for Dr. Willis's *Anatomy of the Brain* in 1664 testify to that unusual dexterity which stood him in as good stead when, a boy, preparing antennæ for the microscope as when, a man, designing the dome of St. Paul's.

The proportion of Pembroke Chapel interior has been so disturbed by a nineteenth-century elongation of Sir Gilbert Scott's that, for the student of Wren, the interest of the building now centres round the western elevation on Trumpington Street. Here, in his very first completed building, Wren already displays that mixture of classical convention with geniality which distinguished him. The principal feature of this façade is a great engaged order of Corinthian pilasters of the slight projection necessitated, as later at St. Peter's, Cornhill, by the importance of encroaching as little as possible upon the narrow pavement below. Just behind the pediment rises the hexagonal domed belfry of florid design, in which the young architect gives rein to his fancy, slipping convention and yet observing that rigid law of proportion a natural obedience to which is taste in form and tact in conversation.

PLATE 5.—PEMBROKE COLLEGE CHAPEL, CAMBRIDGE

By permission of Mr. Batsford, from Belcher and Macartney's "Later Renaissance in England"

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CHAPTER VI

PARIS

Four years after the King's return, public business in London suffered interruption from the visitation spoken of to this day as the Great Plague. All places of assembly were shut, Parliament did not meet, and Christopher Wren gladly availed himself of the opportunity afforded him by an introduction to Henry Jermyn, Earl of St. Albans, the British Ambassador in Paris, of escaping the infected air and at the same time seeing the French capital.

Although, as we have seen, he had, on account of his geometrical attainments, been appointed by the King assistant to his Majesty's Surveyor-General of Works, had been commissioned by his uncle, the Bishop of Ely, to build his memorial-chapel at Pembroke College, and by his personal friends, Archbishop Sheldon and Dr. Bathurst, to prepare plans for a theatre and the restoration of Trinity, Oxford, still the little plain chapel at Cambridge was his only completed architectural work, while his conspicuous contributions to science, his retention (until 1673) of the Savillian chair, and his unremitting attendance at the purely scientific meetings of the Royal Society, to which, in response to an appeal of Wren's own composition, the King had so lately granted letters patent, caused him to be

still generally known as "the Astronomy Professor." Nor, indeed, had his new field of activity as yet hindered him from pursuing fresh researches in the old, for it appears, from a letter of inquiry addressed to him in May of the very year (1665) of which we treat, that it was no longer to the moon that he devoted special attention, but to comets, since, at the very last meeting of the Royal Society which he attended (on January 25th), he submitted to his colleagues' consideration an entirely new hypothesis for determining the recurrence of these phenomena.

But, if Wren went to Paris an astronomer, he may be said to have returned an architect. It is evident, from a sentence in a letter which he addressed to Dr. Bathurst about this time, that the fame of the great architectural activity in France had reached him, since his only mention of his plans of travel occurs when he writes of counting on seeing "Monsieur Mansard and Signor Bernini within this fortnight." Sufficient importance has not, we think, been attributed to the influence which six months' sojourn in Paris at this critical period of his life must have exercised upon his artistic development.

In order to form any idea of France as Wren found her in the latter half of 1665, it is necessary to go back a little and recall the political dissensions which had torn French society and laid waste much of her fairest territory in the wars of the Fronde. While King and Commons had been struggling to the death in England, France had been almost as desperately though differently disturbed. There too the royal prerogative had been disputed by a body professing to represent the oppressed people—the Parliament, namely, of Paris; but here all likeness ended, for in

France the chief cause of quarrel was a matter of court intrigue, Anne of Austria, the Queen-Mother, regent during her son Louis XIV.'s minority, being considered by the popular party to be ruled and mis-ruled by a foreign adviser, Cardinal Mazarin, to whom they further declared her to be privately married. For some ten years of alternate victories and defeats, the Frondeurs, or catapulters, with Cardinal de Retz and Madame de Longueville at their head, upheld the cause of the people, but with none of the earnestness which distinguished the Puritans. Light women jerked the strings of party, ecclesiastics of unscrupulous conscience and dim religious conviction plotted in company with courtesans and adventurers. The following parallel of Voltaire's drawing may indeed be held as sufficiently accounting for the ultimate success of the Royalist party, to which the King's person gave a rallying point and a prestige which the opponents, for lack of definite principles, were incapable of rivalling:

"The internal strife which ravaged France and England simultaneously admirably exemplifies the contrasting character of the two peoples. Englishmen, in their civil warfare, manifested a grave earnestness, a wrath not altogether unreasonable; they poured out their blood in battle, they submitted all to the decision of the sword; the vanquished perished on the scaffold, the King himself was carried to the courts of justice, questioned as to his abuse of the prerogative, condemned and put to death before the eyes of his people, with the same procedure as if he had been a convicted commoner, while London throughout the whole civil war tasted none of its horrors.

"Frenchmen, on the other hand, revelled in sedition, treating it lightly as a passing whim; women were leaders of faction, love formed cabals, as love faded, they fell asunder. Madame de Longueville suborned Turenne, but recently made Field Marshal, to induce the army, which the King himself had appointed him to command, to mutiny. Turenne, finding the army steadfastly loyal, deserted from it to please a woman who only made merry at his expense."

The Fronde had come to an end in 1665, and 1660 had seen the crowning triumph of Mazarin's policy in the marriage of the young King to Maria Theresa, Infanta of Spain. Mazarin died the very next year, and now, under Colbert's wise administration, France entered upon a period of unexampled prosperity. The King's policy was successful both at home and abroad, and the court festivities were so brilliant as to blind men to their cost. Trade flourished in the manufacturing districts, where, for a time, religious strife had checked its development. Since 1598 the Edict of Nantes had allowed the free practice of the Protestant religion, which, no longer persecuted, had ceased to attract ardour, while Louis, not yet of a mind to atone by religious intolerance for moral excesses, would wait until 1685 before revoking that wise measure of his grandfather's.

The two topics most commonly discussed in Paris at the time of Christopher Wren's coming were the recent disgrace of Foucquet, the late Minister of Finance, of whose lavish hospitality in his *château* of Vaux, King and court had so willingly availed themselves until the very eve of his fall, and the great seven-days' *fête* at Versailles in May 1664. This gala, entitled "The Delights of the Enchanted

Isle," had, in its profuse splendour, even eclipsed the Carrousel of 1662, which had been held in the square still known by its name between the Louvre and the Tuileries. The Carrousel had been ostensibly for the pleasure of the young Queen-consort, but really for that of La Vallière, jealousy for whose favour was commonly reported to have quickened to fury the King's smouldering resentment against Foucquet no less than had the ex-minister's proud motto, "Quo non ascendam," which, greeting Louis's eye at every turn from the walls of Vaux, had seemed to signify that the owner's ambition was not yet satisfied. Three years elapsed between the festivities of the Carrousel and those of Versailles, and already, in the King's fickle affections, La Vallière must give place to Montespan.

It is easier to form an idea of the political and social aspects of France at the time of Christopher Wren's visit than to conceive of Paris as she greeted his eager eyes. Such landmarks as had been spared by the rough, red hands of revolution were swept relentlessly away in the early nineteenth century by Baron Haussmann, whose contempt for historic sentiment accounted no relics precious that stood in the way of new streets. So it is that the only uninjured example of seventeenth-century town architecture is the Place des Vosges, a complete square of red brick houses with obtrusive stone dressings, tall roofs, and arcades for shops below, which stands in the district, neglected by most travellers, known as Le Marais. Fashion and leisure have long passed away from the neighbourhood, but, among squalid surroundings, many Renaissance mansions still stand, their majestic doorways testifying to the great chariots which were wont to drive into their courtyards.

But if the longer streets of old Paris are rarely traceable, most of the public monuments which, in 1665, had either just been completed or were in progress of building are still standing. Domes were rising into the air, had indeed—the idea prompted no doubt by the fame of St. Peter's—come to be considered indispensable to the dignity of churches; and these French domes, the only domes (unless we include among such the octagon of Ely) which Christopher Wren ever saw, must surely be regarded as having in some measure influenced him, as in after years he set about raising one mightier far than any he had seen.

Close to the Place des Vosges stands the Church of St. Paul and St. Louis, whose façade, an extreme example of the onerous type of decoration known as the "Jesuit," must have filled the austere Englishman rather with amazement than admiration. Above the crossing rises a dome on a very tall drum, adorned internally with a pilaster order of great delicacy, a delicacy, indeed, here constantly discernible in detail obscured by profuse decoration; the main door of the façade, with its deeply recessed panelling, its crowning volutes, and boldly carved festoons, is of design not dissimilar to the woodwork for which Wren's city churches are so famous. At the distance of a few paces, stands a domed structure, formerly the Church of Sainte Marie des Feuillantines, now a Protestant meeting-house, the flatness of whose cupola is in a measure atoned for by the charm of the crowning lantern.

But more important than either of these must have seemed the domes of the Sorbonne and the Val-de-Grâce, the first prepared by Richelieu for his own tomb, the second built by Anne of Austria, in fulfilment of a vow to

Almighty God if He should grant her a son. The longed-for child, Louis Dieudonné, as he was called, was born in 1638, and, some seven years later, himself laid the foundation of the church which commemorates his birth. Its two-storied façade has the fault, as carefully avoided by the architect of the Sorbonne as by Wren at St. Paul's, of superimposed pediments, but the curve of the dome is of great beauty, albeit obscured by obtrusive buttresses adorned with candelabra and genii. The interior, too, is very impressive, the saucer-domes of the aisles being examples of the construction selected by Wren for the vaulting of St. Paul's.

We have already quoted from a letter of Wren's in which he speaks of the prospect of soon meeting with Mansard and Bernini, and, before telling of the fulfilment of this wish, some account must be given of him to whom he owed these introductions.

Lord St. Albans—by whose favour Christopher Wren appears to have been at once admitted to the society of the architects, sculptors, and painters who thronged the court of that great patron of the arts, Louis XIV.—had been a special favourite of Queen Henrietta Maria's for many years, and he was even reported to be privately married to her. He had been in the thick of plots and counter-plots for the last twenty years, but always rather in the character of a courtier than of a soldier. In religion he would seem to have been as little steadfast as squeamish in morals, and Charles I. is reported to have said of him that he did not understand anything of the Church. He was, indeed, one of those traitors to the cause the King had most at heart, who advised the betrayal of the Church in order

to secure the support of the Scots. His views seem to have been monarchical of that extreme type which has ever been coupled with contempt for the Constitution. Men said of Jermyn that, at a time when the Queen and her son were almost destitute, he, by a judicious tampering with meagre royal supplies, forewent no one of his luxuries. None the less, at the Restoration, marks of royal favour were heaped upon him ; yet he spent his influence in vain in favour of a French marriage for Charles II., who only pronounced him for his pains "more a Frenchman than an Englishman." To this gambler and lover of good living did Christopher Wren, the strenuous, owe his introduction to Parisian society ; yet of his entire satisfaction with his new circumstances we have ample evidence in a letter addressed by him from Paris to his friend Dr. Bateman. It was to him that he owed the introduction to the Ambassador, and, having thanked him and told him of the kindness he had received, he goes on :

"I have busied myself in surveying the most esteemed Fabricks of Paris and the Country round; the Louvre for a while was my daily object where no less than a thousand Hands are constantly employ'd in the Works, some in laying mighty Foundations, some in raising the Stories, Columns, Entablements etc. with vast Stones by great and useful Engines; others in Carving, Inlaying of Marbles,Plaistering, Painting, Gilding etc. which altogether make a School of Architecture the best, probably of this day in Europe."

Among the first works, indeed, set on foot by the young King on his coming of age was the completion of the great palace, or series of palaces, begun by Francis I., with

Lescot for architect, continued by Henry IV. and Ducerceau, and by Catherine of Medicis and Métezeau. Louis XIV. found the river front almost complete, but the great court of the Louvre only as yet enclosed on two sides, the side remaining for him to erect being that which should form the façade to the whole, facing as it did the old church of St. Germain l'Auxerrois. Levau was appointed architect in succession to Lemercier in 1660, but, as we shall see, it was not given to him to build the great façade.

"The College of Four Nations," continues Christopher, "is usually admir'd, but the Artist hath purposely set it ill-favouredly that he might show his Wit in struggling with an inconvenient Situation."

It is curious indeed to find such faint praise accorded to a building which, of all those with which the great century adorned Paris, is that one which exhibits a character most allied to that of Wren's own work. The Institut, as it is now called, is of striking perfection, whether we approach its façade from the Pont des Arts or come first upon its majestic side-pavilions from the Quai Voltaire. It was Mazarin who commissioned Levau to build it to face the Louvre from across the Seine, and the dome which crowns the central building was intended to confer the same distinction on his tomb below as Richelieu had secured from the Sorbonne. But the Italian Cardinal was laid to rest elsewhere, and his name is associated only with the library which occupies the east pavilion. The chapel below the dome has been enlarged, and is now used as a hall for conferring degrees, while the interior, which, to judge from eighteenth-century engravings, was of great beauty, has been marred by stucco and by

the insertion, probably for acoustic reasons, of a false ceiling, so that nothing but the vaulted lobbies remain to testify to former architectural importance. The exterior is, however, uninjured, save for the stripping off of certain sculptural groups whose bare pedestals, forming an integral part of the cornice, conclusively prove them to have been of Levau's original design. A vane has, moreover, been substituted for the ball and cross of the lantern. A tall drum, perfectly cylindrical without—within, curiously enough, an oblong whose longest side greeted the spectator as he entered—disengages itself successfully from the substructure. It is adorned with coupled Corinthian pilasters flanking wide, round-headed windows, and, from above the cornice, rises the dome, its coupled ribs corresponding to the pilasters of the drum. An open lantern supports in its turn a miniature cupola, which reproduces the features of the great one below. Nor must the great cornice of the side-pavilions pass unnoticed, nor the tall urns which stand out so agreeably against the steep black roof behind them.

To resume Wren's letter :

"An Academy," he writes, "of Painters, Sculptors, Architects, and the chief Artificers of the Louvre meet every first and last Saturday of the Month. Mons. Colbert, Surintendant, comes to the Works of the Louvre every Wednesday, and, if Business hinders not, Thursday. The Workmen are paid every Sunday duly. Mons. Abbé Charles introduced me to the acquaintance of Bernini who showed me his Design of the Louvre and of the King's Statue."

Colbert, while successfully striving to restore order to the royal finances, was no less bent on levying contri-

butions to Louis's glory from all great men. One of his first public actions was the founding of a royal pension fund for distressed men of letters, and the first French Academy, that of Inscriptions, was founded in 1663. It was no doubt at Colbert's suggestion that Louis, in his eagerness to secure the very best skill for the works at the Louvre, summoned Bernini from Rome and accorded him that welcome at the frontier and that pomp of progress through his dominions which had hitherto been granted to none save royal personages. For all this, however, when Bernini reached Paris, he found that Claude Perrault's handsome design was being considered, and although the Italian attempted to rival it, he met with no success, and Perrault, who had consented to make certain changes in his original plan, lived to see his colonnade completed in 1674. A handsome pension and a commission to execute a portrait-statue of the King appear, however, to have healed the Italian's wounded vanity, and accordingly to Frenchmen belongs all the credit of the Louvre.

I have been unable to identify this Abbé Charles, except by assuming the name to be erroneously given, and that the personage intended was the Abbé Charnes, author of *Conversations de la Princesse de Clèves.*

To resume Wren's letter:

"Abbé Bruno keeps the curious rarities of the Duke of Orleans' Library well fill'd with excellent Intaglios, Medals, Books of Plants and Fowls in Miniature. Abbé Burdelo keeps an Academy in his house for Philosophy every Monday afternoon."

This is no other than the notorious Bourdelot, born in

1610, the son of a surgeon of Sens who had charmed Christina of Sweden as much as he had incensed her subjects.

"But," continues Wren, "I must not think to describe Paris and the numerous Observables there in the Compass of a short Letter. The King's Houses I could not miss; Fontainebleau has a stately Wildness and Vastness suitable to the Desert it stands in. The antique Mass of the Castle of S. Germain and the Hanging Gardens are delightfully surprising (I mean to any Man of Judgment) for the Pleasures below vanish away in the Breath that is spent in ascending. The Palace, or, if you please, the Cabinet of Versailles call'd me twice to view it, the Mixtures of Brick, Stone, blue tile and gold make it look like a rich livery. Not an inch within but is crowned with little Curiosities of Ornaments. The Women, as they make here the Language and Fashions and meddle with Politicks and Philosophy, so they sway also in Architecture; Works of Filgrand and little Knacks are in great Vogue; but Building certainly ought to have the Attribute of eternal, and therefore the only thing incapable of new Fashions. The masculine Furniture of Palais Mazarine pleas'd me much better, where is a great and Noble Collection of Antique Statues and Bustos, (many of Porphyry) good Basso relievos, excellent Pictures of the great Masters, fine Arras, true Mosaicks besides *Pierres de Raport* in Compartments and Pavement; Vases on Porcelain painted by Raphael and infinite other Rarities, the best of which now furnish the glorious Appartment of the Queen-Mother at the Louvre which I saw many times."

Wren's correcting of the word Palace to Cabinet in his description of Versailles reminds us that, at the time of his visit, Mansard's great remodelling and enlargement of Louis XIII.'s *château* was not yet nearly completed. Louis XIV., careless of the fact that the absence of natural water-supply at Versailles enormously increased the difficulty and expense of preparing that place to be the court headquarters, was set upon the accomplishment of his whim (he was reported to have taken a dislike to the Palace of St. Germains because, from its windows, are discernible the towers of St. Denis, the burying-place of the Kings of France), and laid out the royal pleasaunce, making fountains and ponds the conspicuous feature they remain to this day, witnessing at once to his arbitrariness and his taste. Thirty-six thousand workmen and six thousand horses are said to have been employed at one time in raising terraces and constructing aqueducts, so that the great *fête* of 1664 might be held among suitable sylvan surroundings. But the additions to the *château* itself were not at once undertaken, or, if in course of construction, were not yet completed, so that the garish decoration which Wren so little admired was displayed in a comparatively small space and only the more flaunting for its newness. Palais Mazarine now houses the Bibliothèque Nationale, and has been altered out of all recognition.

The next passage of Wren's letter gives a vivid idea of his amazing activity, for he draws up a list of some fourteen *châteaux*, all of which, and many others, he had surveyed. Most of these have been rebuilt or destroyed, but the two which he especially qualifies as "incom-

parable"—those, namely, of Vaux and Maisons, the masterpieces of Levau and Mansard respectively—still remain, externally at any rate, much as their architects left them. Vaux-le-Vicomte near Melun is that house of Foucquet's, built 1653, of which I have already made mention. The Minister in his days of prosperity would appear to have forestalled his royal master's deliberately reckless expenditure at Versailles. Three villages were ruthlessly razed to the ground in order that Levau's *château* should stand among spaces worthy of its splendour. Lenôtre was encouraged to dig moats and raise terraces on a scale as lavish as he pleased, and the architect appears to have been equally unchecked. The garden front of the house is of the customary French type with slightly projecting side-pavilions, but the central dome tends to a concentration unusual in French houses, the more for having a kind of façade of its own: tall open arcades, to which a great flight of steps give access from the terrace, and, above them, round-headed windows flanked by a great engaged order of Corinthian pilasters, which, with the vases of their cornice, recall the pavilions of the Institut. We are all familiar with the strange terminal figures which enclose the Sheldonian; may it not have been that a similar series which break the monotony of the garden-railing at Vaux suggested the idea?

Maisons was built ten years before Vaux by the elder Mansard, who gave his name to the attic windows so conspicuous in the steep roofs characteristic of French domestic architecture. The house is on much the same scale as Vaux, but its park has been destroyed. Like Vaux, it is surrounded by a moat, which at the time it was

built was merely an anachronism, but which is spanned by bridges whose dignity prompts forgiveness of their absurdity. The great engaged order of the façade is very imposing, and the detail of decorative chimneys and doorways of greater severity than in Levau's work.

Wren would seem to have collected many drawings and engravings, for he goes on to say :

"That I might not lose the Impressions of them [*i.e.*, of the châteaux] I shall bring you almost all France in Paper, which I have found by some or other ready designed to my Hand, in which I have spent both Labour and some Money. Bernini's Design of the Louvre I would have given my Skin for ; but the old reserved Italian gave me but a few minutes view, it was five little Designs on paper, for which he hath received as many thousand pistoles. I had only Time to copy it in my Fancy and Memory, and shall be able by Discourse and a Crayon to give you a tolerable Account of it. I have purchas'd a great Deal of *Taille Douce* that I might give our Countrymen Examples of Ornaments and Grotesques in which the Italians themselves confess the French to excel."

This obviously refers to the collection of designs for chimney-pieces and doorways brought out that very year by Lepautre. Overladen though they are with ornament, they display a grace and a sense of proportion which could not fail to rouse Wren's interest, although he could not then foresee that at any time he would himself be called upon for designs of this nature. The influence of Lepautre is distinctly traceable in the rooms at Hampton Court.

"I hope," continues Wren, "I shall give you a very good Account of all the best Artists in France, my Business now is to pry into Trades and Arts. I put myself into all Shapes, to humour them; it is a Comedy to me, and, though sometimes expenseful I am loth to leave it."

The list of artists or, as he terms them, "Artisans," which he draws up for his correspondent contains many great names, with others which it is hard to identify. Among architects he names Bernini, Mansard the elder, Levau, Lepautre, but Perrault, whose architectural work was still to be done, he mentions as "famous for Basso Relievos"; Lebrun, Poussin, Mignard are among the painters he distinguishes, and of the great horticulturist de la Quintinie he speaks as "having excellent skill in Agriculture, Planting and Gardening."

No doubt his work in England was calling for attention, for having, as we have seen, expressed his unwillingness to leave, he thus closes his letter:

"My Lord Berkeley returns to England at Christmas and I propose to take the opportunity of his Company, and by that Time to perfect what I have on the Anvil,—Observations on the present State of Architecture, Art and Manufactures in France."

Lord Berkeley was four years senior to Wren, and had been among the first elected members of the Royal Society. He was a friend of John Evelyn, and had been one of the Commission which invited Charles II.'s return to England in 1660. He died in 1698.

CHAPTER VII

REPAIRING OLD ST. PAUL'S

Christopher Wren actually returned to England from France at the end of February 1666, and very soon after, about May 1, laid his report on the condition of St. Paul's, made at the express invitation of the Dean and Chapter, before the King.

This important piece of work, in the final draft of which it is easy to trace the influence of his Paris observations, did not keep him, however, from regular attendance at the weekly meetings of the Royal Society, which began again on February 21, the deliberations at which were, as might have been expected, mainly devoted to careful inquiry as to some method of preventing the recurrence of the scourge which had scattered the members and cost so many lives. London was now free of the plague, but it still haunted the suburbs, so that as late as July, John Evelyn at Deptford chronicles the fact that, for fear of infection, neither he nor his family attended public worship.

To return to St. Paul's. I have said that Inigo Jones's work of restoration had not progressed beyond the building of a portico, and a re-coating of the exterior walls with ashlar, when it was interrupted by the Parliamentary soldiers, who seized all his material, tore down his scaf-

foldings, and turned the nave into a cavalry barrack. Such rough handling must surely be accounted as having contributed to the falling in of the whole roof of the southern transept, and of many other portions of the vault, which ensued shortly after; and yet, such is Wren's prejudice against Gothic methods, that he appears to throw all the blame upon the thirteenth-century masons. No doubt, like other Englishmen of their craft, they came very far behind their French contemporaries in vault-construction, but a roof that had stood for four centuries cannot have been so ill-made as to merit such violent vituperation:

"First, it is evident by the Ruin of the Roof, that the Work was both ill-design'd and ill-Built from the Beginning; ill-design'd, because the Architect gave not Butment enough to counterpoise, and resist the Weight of the Roof from spreading the Walls; for, the Eye alone will discover to any Man, that those Pillars as vast as they are, even eleven Foot diameter, are bent outwards at least six Inches from their first position; which being done on both Sides, it necessarily follows that the whole Roof must first open in large and wide Cracks along by the Walls and Windows, and lastly drop down between the yielding Pillars. This bending of the Pillars was facilitated by their ill Building; for, they are only cased without, and that with small Stones, not one greater than a Man's Burden; but within is nothing but a Core of small Rubbish-stone, and much Mortar, which easily crushes and yields to the Weight; and this outward Coat of Freestone is so much torn with Age, and the Neglect of the

Roof that there are few Stones to be found that are not moulder'd and Flaw'd away with the Salt-petre that is in them ; an incurable disease, which perpetually throws off whatever Coat of Plaister is laid on it, and therefore not to be palliated."

Wren had not, it appears, examined other early piers, or he would have known that the most solid Norman pillars are, as he contemptuously describes these, but shells round a core of rubble.

" From hence I infer, that as the Outside of the Church was new flagg'd with Stone of larger size than before, so ought the Inside also ; and in doing this it will be as easy to perform it, after a good Roman manner, as to follow the Gothick Rudeness of the old Design ; and that, without placing the Face of the new Work in any Part many Inches farther out or in, than the Superficies of the old Work ; or adding to the Expense that would arise were it perform'd the worst Way."

By " good Roman manner " we understand him to mean large rectangular slabs of Portland stone as contrasted with the rough-hewn blocks of the original builders.

He proceeds to give his reasons for deeming it impossible to repair the roof, and to make different suggestions for replacing it either by one of timber or a " lighter Shell of Stone." By the latter expression we suppose him to intend a fan-vault in the fifteenth-century manner. As a third alternative, he suggests a brick vault coated with " Stucco which is a harder Plaister that will not fall off with the Drip of a few Winters, but which to this day remains firm in many ancient Roman Buildings."

He comes now to the consideration of the crossing, or, as he terms it, "the Middle Part," above which the great Early English tower was still standing to its full height of 260 feet from the ground, though its spire, which had been of timber and lead over 250 feet high, had been destroyed by lightning in 1561.

"The Middle Part is most defective both in Beauty and Firmness, without and within; for, the Tower leans manifestly by the settling of one of the ancient Pillars that supported it. Four new Arches were, therefore, of later Years, incorporated with the old ones, which hath straighten'd and hinder'd both the room, and the clear thorough View of the Nave, in that Part, where it had been more graceful to have been rather wider than the rest."

This idea of the comeliness of space is pure Renaissance. Gothic tended to raising and straitening, Renaissance to lateral expansion, and, in this suggested chamfering of the angles between the nave, choir, and transepts of old St. Paul's, we can discern the first hint of St. Paul's as we see it. Wren goes on a little contemptuously:

"The excessive Length of Building is no otherwise commendable, but because it yields a pleasing perspective by the continu'd optical diminution of the Columns; and, if it be cut off by Columns ranging within their fellows, the Grace that would be acquired by the Length is totally lost."

Apparently some one had suggested a system of auxiliary columns beneath the great arches of the tower, which, like the chevrons of Wells, would have interrupted the view of

the nave; but the structure was as insecure outside as in, and the three ineffectual buttresses of irregular form which propped up the tottering walls on three sides, leaving one unsupported, seemed to witness to loss of heart in former restorers, and only confirmed Wren in his opinion that the whole must be pulled down. That he was the more eager to do this, for his anxiety to erect a cupola seems obvious:

"I cannot propose a better remedy than by cutting off the inner corners of the Cross, to reduce this middle part into a spacious Dome or Rotundo, with a cupola, or hemispherical roof, and upon the Cupola, (for the outward ornament) a Lantern with a spiring top, to rise proportionably, though not to that unnecessary height of the former Spire of Timber and Lead burnt by Lightening.

"By this Means the Deformities of the unequal Intercolumnations will be taken away, the Church, which is much too narrow for the heighth, render'd spacious in the Middle, which may be a very proper Place for a vast Auditory: the Outward appearance of the Church will seem to swell in the Middle by degrees, from a large Basis, rising from a Rotundo bearing a Cupola, and then ending in a Lantern: and this with incomparable more Grace in the Remoter aspect, than it is possible for the lean shaft of a Steeple to afford. Nor if it be rightly order'd, will the expence be much more than that of investing the Tower and Corners yet unfinish'd, with new Stone, and adding the old Steeple anew, the lead of which will be sufficient for a Cupola; and the same quantity of Ashler makes the corners outward, that would make them inward as they now are; And the Materials of the old

Corners of the Ailes will be Filling Stone for the new Work; for I should not persuade the Tower to be pull'd down at first, but the new work to be build round it, partly because the expectations of Persons are to be kept up; for, many Unbelievers would bewail the loss of old Paul's Steeple, and despond if they did not see a hopefull Successor rise in its stead; and chiefly because it would save a great quantity of Scaffolding Poles; the scaffolds which are needful being fix'd from the old to the new work; and when the Tholus or inward Vault is to be laid, the Tower taken down to that Height will rest the centers of the Vault with great Convenience, and facilitate the planting of Engines for raising the Stones; and, after all is finished and settl'd, the Tower that is left may be taken clear away from within. All which can only from the Designs be perfectly understood. And for the Encouragement and Satisfaction of Benefactors that comprehend not readily Designs and Draughts on Paper, as well as for the inferior Artificers clearer Intelligence of their business, it will be requisite that a large and Exact Model be made; which will also have this use, that if the Work should be interrupted, or retarded, Posterity may proceed where the work was left off, pursuing still the same Design.

"And as the Portico built by Inigo Jones, being an intire and excellent Piece, gave great Reputation to the Work in the first Repairs, and occasion'd fair Contributions; so to begin now with the Dome may probably Prove the best Advice, being an absolute Piece of itself, and what will most likely be finished in our Time; will make by far the most splendid appearance; may be of Present use for the Auditory, will make up all the out-

ward repairs perfect and become an Ornament to His Majesty's most excellent reign, to the Church of England, and to this great City, which it is pity in the Opinion of our Neighbours, should longer continue the most unadorn'd of her Bigness in the world.

"P.S.—I shall crave leave to subjoin, that if there be use of Stucco, I have great Hopes, from some Experience already had, that there are English Materials to be brought by Sea at an easy Rate, that will afford as good Plaister as is any where to be found in the World; and that with the Mixture of cheaper Ingredients than Marble-meal, which was the old, and is now the Modern Way of Italy.

"The Proposer also, (considering the high Buildings grow more and more expensive as they rise, by reason of the Time and Labour spent in raising the Materials,) takes this Occasion to acquaint your Lordships, that having had the Opportunity of seeing several Structures of greater Expence than this, while they were in raising conducted by the best Artists, Italian and French; and having had daily Conference with them, and observing their Engines and Methods, he promoted this geometrical Part of Architecture yet farther, and thinks the raising of Materials may yet be more facilitated, so as to save in lofty Fabricks, a very considerable part of the Time, and Labourers Hire."

Wren's report was sufficiently startling to arouse incredulity, and it was accordingly arranged that he should meet his brother-commissioners at St. Paul's, and there defend himself against any suspicion of rash judgment by

pointing out the specially desperate condition which made thorough restoration, or, as he called it, "restitution," urgently necessary, and the entire rebuilding of certain portions imperative.

"I went," writes Evelyn, on August 27, 1666, "to St. Paul's Church, where, with Dr. Wren, Mr. Pratt, Mr. May, Mr. Thomas Chicheley, Mr. Slingsby, the Bishop of London, the Dean of St. Paul's, and several expert Workmen, we went about to survey the general decays of that ancient and venerable Church, and to set down in writing the particulars of what was fit to be done, with the charge thereof, giving our opinion from Article to Article. Finding the main Building to recede outwards, it was the opinion of Chicheley and Mr. Pratt that it had been so built *ab origine* for an Effect in Perspective in Regard of the Height, but I was with Dr. Wren quite of another Judgment, and so we entered it; we plumbed the Uprights in several Places. When we came to the Steeple, it was deliberated whether it were well enough to repair it only on its old Foundations with Reservation to the four Pillars; this Mr. Chicheley and Mr. Pratt were also for, but we totally rejected it, and persisted that it required a new Foundation not only in Regard of the Necessity but for that the Shape of what stood was very mean, and we had a Mind to build it with a noble Cupola, a Form of Church building not as yet known in England, but of wonderful grace; for this Purpose we offered to bring in a Plan and Estimate, which after much Contest was at last assented to, and that we should nominate a Committee of able Workmen to examine the present Foundation."

CHAPTER VIII

DESTRUCTION OF OLD ST. PAUL'S—EMMANUEL COLLEGE CHAPEL

Five days after the visit of the King's commissioners to St. Paul's, on September 2, 1666, the Great Fire broke out, and, raging for some four days, consumed almost the entire city of London, the ruins extending over an area two miles long by one broad. William Taswell, a schoolboy at the time, has recorded that, on Sunday, September 2, he was standing at sermon-time on the pulpit steps of the Abbey, when, noticing a restlessness and an expression of consternation on the faces of the crowd below, and overhearing the word "fire," he scrambled down, and, without further thought of the preacher, ran to Westminster Bridge. Looking east, he saw the sky red with flame, and below him, on the Thames, came boat-loads of fugitives, clinging to such goods as they had been able to lay hold of. The next day, Monday, he spent—one of a salvage company of Westminster scholars under command of the Dean—quenching the flames round St. Dunstan's-in-the-East. Says Evelyn, "the fire continued all that night, if I may call that night which was as light as day for ten miles round about."

Soon the streets were aflare from Cheapside to the

Thames, but St. Paul's still stood intact, so that "the people round raised their Expectations greatly concerning the absolute Security of that Place upon Account of the immense Thickness of its Walls and its Situation, built on a large Piece of Ground on every Side remote from Houses."[1] They carried their goods thither as to a place of safety, and the stationers stacked the crypt of St. Faith's with their wares.

"But," says Taswell, "this precaution availed them little. As I stood upon the Bridge, I could not but observe the Progress of the fire towards the venerable Fabric. About eight o'clock it broke out on the top of S. Paul's Church." "The Stones of S. Paul's," writes Evelyn, "flew like Grenades, the melting Lead running down the Streets in a Stream and the very Pavements glowing with a fiery Redness . . . the eastern Wind driving the Flames forward." The fire reached St. Paul's on the night of Tuesday and burned fiercely all Wednesday. Soon after sunrise of Thursday, Taswell sets out, over ground so hot as to scorch his shoes, to make the best of his way to St. Paul's. "Let any one," he says, "judge of the extreme emotion I was in when I perceived the metal belonging to the bells melting." This emotion found schoolboy expression and relief in filling his pockets with fragments of bell-metal, and, with this spoil he traversed "this torrid zone back again."

The maturer Evelyn waited till the Friday. "I was," he said, "infinitely concerned to find that the goodly Church S. Paules now a sad Ruine and that beautifull

[1] Taswell.

Portico (for Structure comparable to any in Europe, as not long before repair'd by the late King) now rent in pieces, Flakes of vast Stones split asunder, and nothing remaining entire but the Inscription on the Architrave[1] showing by whom it was built, which had not one letter of it defac'd . . . the ruins of the vaulted Roofe falling in broke into S. Faith's which being filled with the Books, belonging to the Stationers and carried thither for Safety, they were all consumed, burning for a Weeke following. Thus Lay in ashes that most venerable Church . . . besides neere 100 more."

With characteristic energy, both Evelyn and Wren busied themselves devising plans for a new London while the ruins of the old were still smoking, and even here and there bursting into flame.[2] Evelyn records exhibiting his design to the King on September 13, but Wren's had been submitted earlier still. Probably, in the general confusion and interruption of means of transit, the two friends did not know that they were rivals. Certainly there is no trace of annoyance in Evelyn's mention of the fact in a letter to Sir Samuel Tuke: "Dr. Wren had got the Start of me. Both of us did coincide so frequently that His Majesty is not displeased." Charles II. seems to have expressed his preference for Wren's scheme, but to have modified certain details in accordance with Evelyn's. Abortive as these plans proved to be, they are of great interest, but there is no doubt that Wren's, at first sight the least

1 Carolus D. G. Mag. Brit. Fran. et Hiber. Rex F.D. Templum Sancti Pauli Vetustate consumptum restituit et Porticum fecit.

2 According to Taswell, it smouldered for four months.

symmetrical, would have been both more effective and more practicable than Evelyn's. Wren too displayed more consideration for the citizens' sentiment by planning to re-erect the public buildings on their old sites, while Evelyn would have ruthlessly removed the Royal Exchange itself from the heart of the City to the Thames side. The main features of Wren's scheme were the two great streets, ninety feet wide, which would have converged to St. Paul's, one leading straight to the Tower, opening into two piazzas, as he termed his public squares, on the way, and the other, to the Royal Exchange. With regard to the halls of the City Companies, his alterations were more drastic than Evelyn's, for he recommended their being grouped round the Guildhall. One feature was common to both plans—*i.e.*, a wide quay was to be formed on the river bank from the Tower to Blackfriars. But the King had to reckon with the citizens, who, having suffered with remarkable patience, now displayed the national leaning towards compromise. London must be rebuilt, and rebuilt better, but let her ancient landmarks be as far as possible preserved. Deprived by popular ignorance of so unique an opportunity, Wren exhibited his usual philosophic calm, and, Sir John Denham's mind having become unhinged owing to domestic trouble, his assistant was appointed Surveyor-General and Principal Architect for "repairing the whole City, the Cathedrall Church of S. Paul's, all the parochial Churches" (amounting to about fifty) "with other publick Structures." This office was created to meet special emergency, and Wren did not succeed to the position of Surveyor-General to the King's Works until Denham voluntarily ceded it to him. This

was but a short time before the death of Denham, which occurred in March 1669.

There is extant an undated account of the state of St. Paul's Cathedral after the fire, which, for some inscrutable reason, historians [1] have hitherto agreed to regard as written during the latter half of 1668. Judging, however, from internal evidence (since no other source of information seems available) and, by inference, from its phraseology recurring in the King's decree of January 1667, it seems rather to have been written as soon after the fire as so careful an examination of the ruins was possible—*i.e.*, in the last days of the fatal year 1666 itself. It is therefore inserted here.

"Sir Christopher Wren's Account of the State of S. Paul's Cathedral after the Fire of London, 1666.[2]

"What Time and Weather had left entire in the old, and Art in the new repair'd parts of the great Pile of S. Pauls the late Calamitie of Fire hath so weakened and defac'd, that it now appeares like some Antique Ruine of 2,000 years continuance; and to repaire it sufficiently will be like the mending of the Argo-navis, scarce anything will at last be left of the old.

"The first Decaies of it were great from severall causes. First, from the originall building itself. For it was not well shap'd or design'd for the firm bearing of its owne Vault, how massy soever the walls seem'd to be (as I for-

[1] Elmes, Longman, &c.

[2] *Antiquarian Repertory*, 1775.

merly show'd in another paper[1]) nor were the materialls good; for it seem'd to have been built out of the Stone of some other antient Ruines, the Walls being of 2 severall sorts of freestone, and those small; and the Coar within was Raggestone, cast in rough with morter and Putty, which is not a durable way of building, unless there had been that peculiar sort of Banding with some thorowe Courses, which is necessary in this kind of filling work, but was omitted in this fabrick. This accusation belongs chiefly to the West, North and South parts. The Quire was of later and better worke, not inferiour to most Gothick fabricks of that Age. The Tower, though it had the effects of an ill manner of building and small stones and filling work, yet it was more carefully Banded and cramped with much Iron.[2]

"A second reason of the Decaies which appeared before the last fire was in probabilitie the former fire, which consumed the whole Roof in the Reign of Q. Elizabeth. The fall of Timber then upon the Vault, was certainly one maine cause of the Cracks which appear'd in the Vault and of the spreading out of the Walls above 10 inches in some places from their true Perpendicular as it now appears more manifestly. The giving out of the Walls was endeavoured to be corrected by the Artist of the last Repaires,[3] who plac'd his new case of Portland Stone truely perpendicular and if he had proceeded with casing it within, the whole had been tolerably corrected. But now even the New work is gone away from its Perpendicular allso

[1] See page 86.
[2] It is important to notice this last phrase.
[3] *I.e.*, Inigo Jones.

by this second fall of the Roofe in this last fire. This is most manifest in the North West Isle.

"The second Ruines are they that have put the Restauration past Remedy, the effects of which I shall briefly enumerate.

"First, the Portick is totally depriv'd of that excellent beauty and strength which time alone and weather could have no more overthrown than the naturall Rocks, so great and good were the materials and so skilfully were they lay'd after a true Roman manner. But so impatient is the Portland Stone of fire, that many Tonns of Stone are scaled off and the Columns flaw'd quite through.

"Next the south west corner one of the vast pillars of the body of the Church, with all it supported is fallen.

"All along the body of the Church the pillars are more given out than they were before the fire and more flaw'd towards the bottome by the burning of the Goods belowe and the timber fallen.

"This further spreading of the pillars within hath also carried out the Walls of the Isles and reduc'd the circular Ribbs of the Vaults of the Isles to be of a form which to the eye appears distorted, and compress'd especially in the north west Isle of the Body of the Church.

"The Tower and the parts next about it have suffered the least by reason that the Walls lying in form of a Cross give a firm and immoveable Buttment each to other, and they stand still in their position and support their Vaults, which shews manifestly that the fall of the timber alone could not break the Vaults, unless where the same concussion had force enough to make the Walls allso give out.

"And this is the reason of the great desolacion which appears in the New Quire, for there the falling Vaults in spite of all the small Butresses, hath broken them short, or deslocated the stouter of them, and, overthrowing the North wall and pillars and consequently the Vaults of the North East Isle, hath broken open the Vaults of St. Faith's (though those were of very great strength), but irresistible in the force of so many 1000 Tonns, augmented by the height of the Fall.

"Having shown in part the deplorable condicion of our Patient, we are to consult of the Cure if possibly Art may effect it. And herein we must imitate the Physitian, who, when he finds a totall decay of nature, bends his skill to a palliation, to give Respite for a better settlement of the Estate of the Patient. The question is then. Where best to begin this kind of practise, that is to make a Quire for present use.

"It will worst of all be affected in the New Quire, for there the Walls and Pillars being fallen, it will cost a large sume to restore them to their former height, and before this can be effected, the very substruction and repaire of St. Faith's will cost so much, that I shall but fright this Age with the Computacion of that which is to be done in the Darke, before any thing will appear for the Use desired.

"The old Quire seems to some a convenient place and that which will be most easily affected. Because the Vault there looks firme or easily reparable as far as to the place where was once the Old Pulpit. But the designe will not be without very materiall Objections. First the place is very short and little between the stone skreen and the

Breach, and only capable of a little Quire, not of a Auditory.

"And if the Auditory be made without, yet Secondly all the adjacent places are under the Ruines of a fallen Tower, which every day throws off smaller scales, and in frosts will yield such showers of the outside stones (if no greater parts come downe with tempests) that the new Roofs (yet to be made) will be broken if no further mischiefs ensue. Thirdly, you are to make such a dismall procession through Ruines to come thither that the very passage will be a Penance. Fourthly, this cannot be effected without considerable expense of making of particion walls to the topp to sever this part on every side from the Ruines, and covering with timber and lead these 4 short parts of the Cross next the Tower and covering the Tower also, that is, if you make Room for the Auditory as well as the Quire, the Quire itself being very little.

"These waies being found inconvenient and expensefull, either of taking out a part, where the new Quire was or where the old Quire is with the parts west, north and south next the Tower as far as the Vaults stand; it remains that we seek it in the Body of the Church. And this is that which I should humbly advise, as the properest and cheapest way of making a sufficient Quire and Auditory after this manner.

"I would take the Lesser North and South doors for the Entrances and leaving two Intercolumnations[1] Eastward and 3 or 4 Westward, I would there make particion walls of the fallen stone upon the place. The last part

[1] *I.e.*, bays.

above the Doores may be contriv'd into a Quire, the West into a Auditory. I would lay a Timber Roof as low as the botoms of the upper windows with a flat fretted cieling. The lead sav'd out of the burning will more than cover it. Of iron and pavement there is several for all uses. The Roof lying low, will not appeare above the Walls,[1] and since we cannot mende this great Ruine we will not disfigure it, but that it shall still have its full motive to work if possible upon this or the next Ages; and yet within it shall have all convenience and Light (by turning the second storey of arches into Windows, and a beauty desirable to the next two Centuries of years and yet prove so cheap that between three and four thousand pounds shall effect it all in one summer.

"And having with this ease obtained a present Cathedrall, there will be time to consider of a more durable and noble Fabrick, to be made in the Tower and Eastern parts of the Church, when the minds of men, now contracted to many Objects of necessary charge, shall by God's blessing be more widened, after a happy Restauration, both of the Buildings and Wealth of the City and Nation. In the meanewhile to derive, if not a stream, yet some little drills of Charitie this way or at least to preserve that already obtained from being diverted, it may not prove ill advised to seem to begin something of this new Fabrick. But confess this cannot be put in execution without taking downe all that part of the Ruines which whether it be yet seasonable to do, we must leave to our Superiours."

[1] "No Roof can have dignity enough to appear above a Cornice," wrote Wren in one of the tracts on Architecture reprinted in *Parentalia*.

Early in 1667 (four months after the fire) the King, whose gaieties had not hindered him from displaying remarkable activity and resource in the interests of his stricken subjects, and who had even superintended the finally successful checking of the flames in person, issued the following order:

"January 15, 1667, at Whitehall.

"Whereas the dreadfull Calamity of Fire . . . hath in particular fallen so heavy upon the Cathedrall Church of S. Paul and . . . set back the Method of its Repairs we cannot . . . hope suddenly to proceed in that great Work. It being thought necessary in the mean Time (till it shall please God to bless us with a more favourable juncture for doing something more lasting and magnificent,) that some part of that venerable Pile be forthwith restored to its religious Use . . . and it being also apparent that the whole East Parte of that Cathedrall is under greater Desolation than the Rest . . . it was this Day order'd that a Choir and Auditory for present Use be set out, repair'd and finish'd in the Course of the next Summer in the Body of the Church between the West End and the second Pillars above the little North and South Dores."[1]

It will be noticed that the repairs are still to be proceeded with, for although Dr. Wren had already pronounced a complete re-building to be necessary, the King and the Cathedral authorities, not unnaturally loth to

1 The ground-plan of old St. Paul's presents the unusual feature of doorways in the north and south walls of the nave, half way between transepts and west end. That the nave of the Cathedral thus became a gangway had tended much to its desecration.

recognise so apparently irreparable a loss as that of old St. Paul's, still held fast to hopes of effectual restoration.

The purely mechanical work of clearing the choked streets of rubbish, a necessary preliminary to any building operations, once set on foot, did not require more than general directions from Dr. Wren, and accordingly he resumed his astronomy lectures at Oxford, where, moreover, his theatre was now nearing completion and his restorations at Trinity in progress.

His frequently recorded attendance, however, at the Royal Society meetings proves him to have spent many days of 1667 in London, and some foreknowledge of future difficulties must surely have prompted the experiments for raising weights by force of gunpowder which he submitted for discussion on February 6. He cannot have put much heart into the superintendence of those works of restoration at St. Paul's, of which he was sagacious enough to know that the futility must ere long declare itself.

The Royal Society no longer met at Gresham College, which, surviving the fire, had been made over to the homeless Mayor and Corporation for the transaction of their business, but at Arundel House, near the Temple, by permission of Mr. Henry Howard, afterwards Duke of Norfolk, and a great personal friend of John Evelyn's. Arundel House not being altogether suitable for their purpose, and the members of the Society having moreover been presented with a site by Mr. Howard, Hooke, whose versatility seems to have prompted him to an imprudent rivalry with Wren, though but lately appointed by him to the post of his assistant, hastily volunteered a design. It seems, however, to have been at once pronounced unsatisfactory, and,

as usual, recourse was had to Wren, then at Oxford. The Society begged him to wait upon Mr. Howard, who happened to be in the University City, without delay, and Wren's account of the interview and suggestions for the required building are contained in an autograph letter dated from Oxford, June 7, 1668. As the college, "owing to legal difficulties and lack of funds,"[1] was never built, and the letter contains little except suggestions of practical utility concerning the spacing of lecture rooms and laboratories, it is of too little general interest to transcribe, save for the last paragraph, which exhibits Wren content, as great men have ever been, to initiate great enterprises even without hope of seeing them completed rather than pare down their designs to narrow contemporary requirements.

"As for the charge of this Fabrick," he writes, "I confess it is my Opinion that a fair Building may easier be carried on by contribution with time than a sordid one. And, if I might advise, I could wish the foundations were laid of the whole but then you need not build more than one half at present and this may be done for two thousand pounds and will contain the necessary rooms and so you will leave yourselves an opportunity of enlarging hereafter upon the same model. If you think to have a model made, I will willingly take care to have it done . . . the cupola may be left till the finishing."

The said cupola he intended should serve at once the astronomers for observations and the anatomists for theatre.

1 Weld's *History of Royal Society*.

Nor is even this the sum of Wren's services to the Royal Society, for, in 1668, he read a paper on the cycloid, which he, who throughout his life was customarily so careless in placing his discoveries on record as to have been often the victim of plagiarists, deemed of such importance that its date (1668) is given in that incomplete manuscript list of his works[1] which, compiled by his son, was collated by Wren himself before his death. About this time too he contributed several hypotheses on Motion, which, esteemed of great value by his contemporaries, were soon to be superseded by Newton's discovery of gravitation laws.

In addition to his architectural work in London and Oxford, Dr. Wren further undertook the building of another chapel at Cambridge, that namely of Emmanuel College. This commission he appears to have owed to Sancroft, Dean of St. Paul's, between whom and the Surveyor-General an intimacy had sprung up as together they investigated old St. Paul's before and after the fire.

William Sancroft, admitted as Commoner to Emmanuel in 1633, had risen to be successively Fellow, Tutor, and Bursar of his College before the Commonwealth compelled one of his strong "Church and King" principles to retirement. For nine years he lived a quiet life of study in the country, occasionally publishing treatises refuting the dominant Calvinism. At the Restoration he was appointed Chaplain to the King, and soon after the Fellows of Emmanuel elected him Master, an office which his promotion to the Deanery of St. Paul's allowed of his holding but for three years. The cares of his new office and the

[1] Lansdowne MS., British Museum.

press of business in London made him, however, none the less mindful of a work upon which he had set his heart, but which time had not allowed him to see executed at Cambridge. Emmanuel stood in need of a new chapel, and he corresponded on the subject with his successor, Dr. Breton, as we know from letters from the latter still extant in the Bodleian.

"This whole Society," writes Breton to Sancroft on January 25, 1667, "joynes with me in the thanks to be given to you for your care concerning the modell of our chapell . . . but doubt whether we shall be able to lay the foundations this year as we did intend, the unexpected troubles[1] have raised the price of lime to be double to what it was a month since."

Dr. Breton seems to have been no less eagerly desirous to see the work done than Sancroft, and himself travels into Northamptonshire in hopes of procuring stone from a quarry there at less cost. In a letter informing Sancroft of the success of his enterprise he writes on February 19:

"Dr. Wren hath sent me a very civill ansure of the letter which you was pleased to send him from me, he sayth it is possible he may be in London by Mid-Lent and that he may then make a start to come here but desires I would not delay one day in expectation of him. Truly, Sir, though I am in some Readiness to begin, I will stay many days rather than want his advise upon the place. His presence will be a great reputation (besides other advantages) to the whole work. Give me leave to

1 No doubt the Dutch victory at the mouth of the Thames.

and obelisks. Wren's usual method is that which he used in his very earliest building, Pembroke Chapel: to set his turret behind the apex of the pediment. Two vases of globular outline take the place of acroteria, while the base of the domed turret exhibits the college clock. Between the pillars and pilasters of the great order forming three bays, and for five bays on either hand, is an open cloister of which the three middle bays form a vestibule to the chapel and the rest give access to the garden beyond, while the gallery above is lit by windows divided by wooden mullions of fifteenth-century proportion, an anomaly as audacious as it is successful. The space between the pillars being wider than that between pillars and pilasters, Wren in his first design, bent apparently on making his arcade uniform, built out a wall on either side, but it is manifest that the wider aperture eventually made tends to centralise just as surely as the concentration of ornament above—*i.e.*, cartouche, clock, turret. We have spoken of the mullioned windows. They too are strange to the original design, which exhibits a series of commonplace apertures, their sides rising immediately and ungracefully from a heavy course of flat masonry altogether lacking the play of light and shade of the series of recessed panels which give such variety to the façade as we see it. But nowhere is the artist's modifying touch so conspicuous as in the belfry turret itself, whose grace of poise betrays a mastery which no other detail of this building approaches. The delicate columns alternating with narrow round-headed windows, glazed above, shuttered below, the keystones and capitals of windows and columns respectively—how different these from the rect-

angular openings and almost angular outline of the dome in the design at All Souls'!

In the drawing it appears that Wren intended to give greater relief to the chapel by facing the side cloister galleries with brick, but it is evident that they were ashlared in building as we see them now.

The plain interior of this chapel must have been more imposing with the crimson and purple hangings with which there is record of its having been temporarily adorned than with the formal altar-piece which, given by Sancroft in 1687, adorns its sanctuary to this day.

But before the end of 1668 Wren had work vastly more important than the building of college chapels.

We have seen how determined both King and clerics had shown themselves to restore rather than rebuild St. Paul's, spite of Wren's warnings, and how, while his subordinates superintended the clearing of débris and propping up of such fragments as had been left standing, Wren had withdrawn, thinking no doubt to spend much of his time to better purpose at Oxford, where, besides his astronomy lectures, he had buildings in progress. There it was, in early May 1668, that a letter reached him from Dean Sancroft which told him how the further ruin which he had foretold had already set in.

"Sir," writes the Dean on April 25, "as he said of old, *Prudentia est quaedam divinatio*, so Science (at the Height you are Master of it) is prophetic too. What you whisper'd in my Ear at your last coming hither, is now come to pass. Our Work at the West-end of St. Paul's is fallen about our Ears. Your quick Eye discern'd the

Walls and Pillars gone off from their Perpendiculars, and I believe other Defects too, which are now expos'd to every common Observer.

"About a Week since, we being at Work about the third Pillar from the West-end on the South-side, which we had new cased with Stone, where it was most defective, almost up to the Chapitre, a great Weight falling from the high Wall, so disabled the Vaulting of the Side-aile by it, that it threaten'd a sudden Ruin, so visibly, that the Workmen presently remov'd; and the next night the whole Pillar fell, and carry'd Scaffolds and all to the very Ground.

"The second Pillar (which you know is bigger than the rest) stands now alone, with an enormous Weight on the Top of it; which we cannot hope should stand long, and yet we dare not venture to take it down.

"This Breach has discover'd to all that look on it, two great Defects in Inigo Jones's Work; one, that his new case of Stone in the upper Walls (massy as it is) was not set upon the upright of the Pillars, but upon the core of the Groins of the vaulting: the other, that there were no Key-stones at all to tie it to the old Work; and all this being very heavy with the Roman Ornaments on the Top of it, and being already so far gone outward, cannot possibly stand long. In fine, it is the Opinion of all Men, that we can proceed no farther at the West-end. What we are to do next is the present Deliberation, in which you are so absolutely and indispensably necessary to us, that we can do nothing, resolve on nothing without you.

"'Tis therefore, that in my Lord of Canterbury's Name, and by his Order, (already, as I suppose, intimated to you

by the Dean of Christ-Church) we most earnestly desire your Presence and Assistance with all possible Speed.

"You will think fit, I know, to bring with you those excellent Draughts and Designs you formerly favour'd us with; and in the mean Time, till we enjoy you here, consider what to advise, that may be for the Satisfaction of his Majesty, and the Whole Nation; an Obligation so great and so publick, that it must be acknowledg'd by better Hands than those of—

"Your very affectionate Friend, and Servant,

"W. Sancroft."

Wren's reply has not come down to us, but it evidently repeated his conviction that any restoration was work thrown away. He seems, too, to have inquired how much money the Treasury would be willing to allow him, and expressed his willingness to prepare plans in accordance with the reply he should receive. This, as we shall see, the authorities rather indignantly deprecate, desiring rather that he make his plan and declaring their determination that resources shall not fail for its worthy execution.

"Sir," writes Sancroft, "yesterday my Lords of Canterbury, London, and Oxford, met on purpose to hear your Letter read once more, and to consider what is now to be done in order to the Repairs of St. Paul's. They unanimously resolv'd, that it is fit immediately to attempt something; and that without you they can do nothing.

"I am therefore commanded to give you an Invitation hither, in his Grace's Name, and the rest of the Commis-

sioners with all Speed ; that we may prepare something to be propos'd to his Majesty (the Design of such a Quire at least, as may be a congruous Part of a greater and more magnificent Work to follow) and then for the procuring Contributions to defray this, we are so sanguine, as not to doubt of it, if we could but once resolve what we would do, and what they would cost. So that the only Part of your Letter we demurr to, is the Method you propound of declaring first, what Money we would bestow; and then designing something just of that Expence ; for quite otherwise, the Way their Lordships resolve upon, is to frame a Design handsome and noble, and suitable to all the Ends of it, and to the Reputation of the City, and the Nation, and to take it for granted, that Money will be had to accomplish it ; or however, to let it lie by, till we have before us a prospect of so much as may reasonably encourage us to begin.

"Thus far I thought good to prepare you for what will be said to you, when you come, that you may not be surprised with it ; and if my Summons prevail not, my Lord the Bishop of Oxford, hath undertaken to give it you warmer, *ore tenus*, the next Week, when he intends to be with you, if at least you be not come towards us before he arrives ; which would be a very agreeable Surprise to us all, and especially to—

"Your very affectionate humble Servant,

"W. Sancroft."

CHAPTER IX

WREN'S FIRST DESIGNS FOR ST. PAUL'S

After this manner was it, then, that Wren's great opportunity came, but it is evident from the latter part of the Royal Mandate which follows that the King still hoped for some utilisation of the old materials. The Warrant runs:

"Charles R.

"Whereas upon strict Survey and Examination of the Ruines of the Cathedrall Church of S. Paul, London, by knowing and experienced Artists it is found that the Walls now standing are in all Parts so decayed by the late Fire, that they are judged altogether insufficient for bearing another Roof or any new Work. It is therefore our express Will and Pleasure that immediate Care be had for taking downe the Walls and clearing the ground to the Foundation of the East End, the old Quire, and the Tower in such Manner as shall be judged sufficient to make room for a new Quire, of a faire and decent Fabrick, neare or upon the old Foundations; and also that Care be taken of the Cornishes, Astlers and such parts of the Former towards the West, as shall be deem'd usefull for the new Fabrick, lest they be spoil'd by the Fall of more of the Walls which seeme to threaten immediate Ruine. And

for so doing this shall be your Warrant. Given at our Court at Whitehall, the 25th day of July, 1668."

It should be noticed that it is decreed that the new walls are to rise as close as possible to the old foundations, but that already the necessity for an entirely new choir is acknowledged. It is not until five years later, indeed, that on the twelfth day of November 1673 letters patent were issued under the Great Seal to the Lord Mayor (who is here granted this extraordinary precedence), to the two Archbishops, and other lords spiritual, to certain lords temporal, to Sir Matthew Hale, Dugdale, the historian of London, and "Doctor Christopher Wren, Doctor of Laws and Surveyor-General of Our Works," bidding them provide for the entire rebuilding of the great Cathedral.

The preamble of this Warrant, which curiously omits all mention of that quoted above, runs as follows:

"Whereas—Since the issuing out of Our Commission (Anno 1663 15 (Ar. II) the late dreadfull Fire in London hath destroyed and consumed the Cathedral Church of St. Paul to such a degree that no Part of the Ancient Walls or Structures can with any Safety be relied on, or left standing; insomuch that it is now become absolutely necessary totally to demolish and raze to the ground all the relicks of the former Buildings, and in the same Place, but upon new Foundations, to erect a new Church; (which that it may be done to the Glory of God, and for the promoting of His divine Worship and Service therein to be celebrated; and to the End the same may equal if not exceed the Splendor and Magnificence of the former Cathedral Church, when it was in its best Estate and so

become much more than formerly, the principal Ornament of Our royal City, to the Honour of Our Government, and of this Our Realm, We have caused several Designs to that Purpose to be prepared by Dr. Christopher Wren, Surveyor General of all our Works and Buildings, which We have seen, and one of which We do more especially approve and have commanded a model thereof to be made after so large and exact a manner that it may remain as a perpetual unchangeable Rule and Direction for the Conduct of the whole Work) and whereas Our former Commission in which the upholding and repairing the ancient Cathedral Church is only designed and mentioned, doth not sufficiently authorize and impower Our said Commission therein named to begin and compleat a new Fabrick upon new Foundations, etc."

Wren had, in fact, submitted various plans to the King, and, at the royal request, had constructed a wooden model of the design which he himself preferred—a model on such a scale that two persons could stand within it and form a far clearer idea of the interior effect than was possible from mere elevations and ground plans. This model is still in tolerably perfect preservation,[1] and is of such beauty that it has been a matter of regret to many that the Cathedral was not built after this fashion. The form is that of a Greek cross surmounted by a dome, but the Chapter and others of the clergy were naturally unwilling to approve so daring a departure from "cathedral-fashion" as this aisleless building with a shallow choir. It had long ago been decided (even before the Fire) that at

[1] It is shortly to be removed from St. Paul's to the Victoria and Albert Museum.

the crossing there should be as large a space as possible "for an auditory," since the sermons so long preached from St. Paul's Cross were henceforth to be preached within the Cathedral, but it was strongly felt that the Cathedral Church of London must not sink to the level of a mere preaching-house; it must be a House of God witnessing to its parentage with old St. Paul's by an Altar of equal dignity, a Bishop's Throne, stalls for the recitation of Choir Offices; long processions must be provided for; sermons must be subordinated to Sacraments, and no mere symmetry could compensate for the anomaly of a Cathedral whose outward form should be an implied contradiction of the Church's teaching.

It is difficult to disentangle fact from legend in examining Wren's designs for St. Paul's, of which (save of the very earliest) there are drawings extant—drawings exhibiting noteworthy discrepancies, but all undated, so that no theory of development has more weight than the reader is prepared to lend to the judgment of any individual critic. This much at least appears certain: that the first design (that one of which no drawing has come down to us) was at once disapproved as not sufficiently magnificent, and that Wren gladly set himself to prepare not drawings alone, but, at the King's own suggestion, a working model of grander conception. This scheme of his, commonly known as the "rejected design," is that one at the non-acceptance of which he is reported to have wept; and critics have been prone to add their tears to his rather than carefully and dispassionately to consider whether it be altogether a matter for regret that this design met with no favour from King or Chapter.

Beautiful as the model is, unrivalled as would probably have proved the sense of space communicated by the vistas which open out on eight sides from the interior of the dome, for all unwillingness to criticise the darling design of England's greatest architect, consideration convicts it of faults which compel the conclusion that, however incompetent the members of the Commission to judge, however inconsequent their judgement, it is well that Wren was powerless to prevail against their decisions. The dome, girt closely about with buttresses of concave form, and therefore externally of ogee outline; the pilaster order of the exterior walls, which seems cramped between the tall stylobate and heavy attic; the absence of any organic link between the western dome, which strikes the spectator as thrust in as an afterthought to lengthen the nave and the portico, which, save for the covering pediment, is but a reproduction of Inigo Jones's without the depth which lent such majesty to that one—these features would surely never have combined as do the component parts of the present Cathedral, while, for purposes of worship, the fact that the High Altar would have been invisible to all but a fraction of the congregation is a ritual fault for which no vistas right and left would have atoned.

"Thus much is specified," writes Stephen Wren in *Parentalia*, "upon Recollection that the Surveyor in private Conversation always seem'd to set a higher Value on this Design than any he had made before or since; as what was labour'd with more Study and Success; and (had he not been overrul'd by those whom it was his Duty to obey) what he would have put in Execution with

more Cheerfulness and Satisfaction to himself than the latter."

There is no mention here of tears, and the only authority for these is a passage in Spence's *Anecdotes*,[1] which relates that, when the Duke of York insisted that St. Paul's must have side chapels, and prevailed with the King to support him, the Surveyor was moved to tears because this alteration so "narrowed the building." As the design which we are now considering was at once categorically rejected as "not enough of a Cathedral fashion," it is unlikely that any modifications of it were suggested. It seems therefore more likely that these tears of Sir Christopher's fell at a later date when the plans for the Cathedral as we know it were under discussion. If Wren had so passionate a preference for this Greek-cross design of his as his son's words written some fifty years later "upon Recollection" and the gossip of Spence have sufficed to make all subsequent writers believe, how came it that he reproduced so very few of its features in the later St. Paul's, although availing himself to the fullest conceivable extent of the royal permission to modify the design ultimately accepted, which, as Mr. Longman truly says, "is as different from the actual St. Paul's as that is from Salisbury Cathedral"?

But there was much to be done before any new building could be undertaken. The walls of the mediæval cathedral had been of great thickness; the foundations had been laid some five centuries before the Great Fire, and although, to use an idiom of his own, Wren, not feeling bound "too nicely to observe east or west," by turning

[1] *Anecdotes*, Joseph Spence, 1820.

the axis of his plan a little towards the north-east, avoided the necessity of rearing his walls on ground loosened by the excavation of former masonry, yet eighteen months elapsed between the issuing of the Royal Mandate empowering him "to totally demolish and raze to the ground all the relicks of the former building" and the laying of the foundation stone.

The way in which Wren, undeterred by rubbish-heaps, planned out his spaces from a platform raised on scaffolding for the express purpose of enabling him to scan the whole area save for the ruins of the actual crossing, is characteristic of his energy, which could not brook the delay that must have ensued had he waited until the whole space should be cleared.[1] The chief difficulty was the great strength of the fragments of the central tower, which still stood 200 feet high. Here the work of demolition was not unattended with danger: there is record of some four or five workmen losing their lives, and the rest, fearful of falling, went timidly to work and made little progress. Difficulty was ever an incentive to Wren's ingenuity, and the experience gained by his recent experiments with gunpowder determined him to hasten the work of destruction by blasting. Digging a hole about four feet square beside the great north-west pier, which, standing at the angle of nave and transept, had formed one of the four main supports of tower and spire, he bored another hole

[1] Forty-seven thousand loads of rubbish were carted away. In contrast to nineteenth-century carelessness, which in 1846 allowed the beautiful internal fittings of St. Benet's Fink to be sold by public auction, it should be noted that Wren gave special injunctions that all the good stone be set aside for the rebuilding of the parish churches.

half-way through the masonry of the pier itself, a distance of some seven feet. In this latter cavity he placed a box containing eighteen pounds of gunpowder. Setting a fuse, the Surveyor waited, only to find the result exactly as he had anticipated. The charge sufficed to raise the great pier bodily, and, with a shock which the Londoners likened to that of an earthquake, it fell, carrying with it a part of the ruins of the nave. So careful had been the preparation, so nicely calculated the force of the explosion, that no one was injured, and the same means would have sufficed to break up the remaining sides of the tower. The King's commands, however, drew Wren away from London just then, and the completion of the demolition was left to a subordinate, who, thinking to hasten matters and outdo his master's achievement, used more powder and less wit. The wall fell, indeed, but the carelessly-laid charge projected a great fragment of stone into a room in a neighbouring house in which some women were sitting at work. No one was injured, but the citizens, sharing the seamstresses' natural panic, implored that any further use of gunpowder be prohibited.

Again Wren's ready resource stood him in good stead; mindful, no doubt, of the sieges in Livy of which he had read with Dr. Busby, he devised a battering-ram after the ancient model. For a whole day thirty men, divided into two teams, worked the ropes in vain. The wall showed no sign of yielding, as, time after time with wearisome monotony, the great ram, an iron-pointed mast forty feet long, was drawn back and let go again. The men were discouraged, not so the Surveyor, and indeed, towards evening of the second day, the wall fell; and, by

the same expedient. the remaining portions of the great tower were laid low.

Meanwhile the fund derived from the coal-tax and from private benevolence was growing steadily. The tax, which had at first been fixed at one shilling a chaldron, had in 1670 been raised by Act of Parliament to three, of which three-fourths was allotted to the parish churches and the remaining fourth to St. Paul's.

On May 14, 1675, the King issued the following mandate to the Commissioners :

"Charles R.

"Whereas We have been informed that a Portion of the Imposition laid on coals, which by Act of Parliament is appointed and set apart for the rebuilding of the cathedral Church of S. Paul in Our capital City of London doth at present amount to a considerable sum, which though not proportionable to the greatness of the Work is, notwithstanding, sufficient to begin the same and, with all the Materials and other Assistances which may probably be expected will put a new Quire in great Forwardness and whereas among divers Designs which have been presented to Us, We have particularly pitched upon one, as well because We found it very artificial, proper and useful as because it was so ordered that it might be built and finish'd by parts: We do therefore by these Presents signify Our Royal Approbation of the said Design hereunto annexed and do will and require you forthwith to proceed according to the said Design beginning with the East-end or Quire and accomplishing the same with the present Stock of Money and such Supplies as may probably accrue."

In accordance with these commands, the foundation stone of the Cathedral was formally laid by the architect himself, assisted by his master-mason, Thomas Strong, on June 21, 1675; but there seems to have been no ceremonial observance of the occasion, nor is there any record of the presence of Bishop or Dean, or of any member of the Chapter, while the stone laid at the north-east corner of the choir is unmarked by any inscription.

It has been seen that Wren declined to build on former foundations, but, before laying his own, he made as careful an examination as the rudimentary geology of his day allowed of the strata of that eminence above the Thames which, ever since the seventh century, had been sacred to the Cathedral Church of London. "The Surveyor," writes his son in *Parentalia*, "observed that the Foundation of the old Church stood upon a layer of very close and hard Pot-earth and concluded that the same ground which had borne so weighty a Building, might reasonably be trusted again. However, he had the Curiosity to search further and accordingly dug Wells in several Places and discerned this hard Pot-earth to be on the North side of the Church-yard about six Feet thick and more, but thinner and thinner towards the South till it was upon the declining of the Hill scarce four feet: still he searched lower and found nothing but dry Sand mix'd sometimes unequally but loose, so that it would run through the Fingers. He went on till he came to Water and Sand mix'd with Periwinkles and other Sea-shells; these were about the level of low-water Mark. He continued boreing till he came to hard Beach, and still under that till he came to the natural hard Clay which lies under the City and Country

and Thames also far and wide. By these Shells it was evident the Sea had been where now the Hill is, on which Paul's stands." Modern science refutes this marine theory, and considers the shells upon which it was built up to have been of some fresh-water species. The sand which ran through Wren's fingers is a more interesting observation, for this stratum forms a great danger to St. Paul's in these days when the needs of a great city are so largely met by tunnelling on a scale of which the architect for all his prescience could have had no conception. This sand and gravel between the stratum of pot-earth or loam and the London Clay owes such stability as it can boast to the pressure of the pot-earth stratum, and there is danger of such excavations allowing the sand to fall away, which cause could not fail to cause various subsidences in the upper stratum. This danger it is which has made the authorities object to any tunnelling operations near the Cathedral.

Satisfied that the loam or pot-earth stratum, though of varying thickness, extended over the whole area upon which he planned his building, Wren had successfully carried his foundations round three sides when, to his dismay, he discovered that, at the north-east corner, the pot-earth had at some remote (probably Roman) period been quarried, leaving nothing but sand and gravel beneath his wall. His subordinates advised him to raise this portion on wooden piles, but there was little moisture, and Wren knew that wood unsubmerged is liable to rot, while, to use his own phrase, he built "for Eternity" as far as he could. He therefore ordered a pit to be dug about eighteen feet square and its sides shored up by timbers. Forty

feet down he came upon water and shells, and, boring again, did not begin to build until he came to the clay. There he set a pier of solid masonry ten feet square, from which, when within fifteen feet of the surface, he threw an arch to the interrupted foundation. According to *Parentalia*, this excavation and pier alone cost the building-fund £17,000.

It is the same intermittent source of information which relates how, one day, when the architect was laying out his ground plan upon the site, he called to a workman to bring him a flat stone which should serve as a temporary mark for the masons engaged upon the foundations; and it was esteemed a propitious omen that the stone carelessly selected by the man should be an inscribed fragment of a slab bearing the single word "Resurgam" in large capitals.

The following notice which he caused he put up in the Cathedral while the works were in progress testifies to the importance he attached to reverence:

"Whereas, among labourers, &c., that ungodly custom of swearing is too frequently heard, to the dishonour of God and contempt of Authority; and to the end, therefore that such impiety may be utterly banished from these works, intended for the service of God and the honour of religion—it is ordered that customary swearing shall be a sufficient crime to dismiss any labourer that comes to the call, and the Clerk of the Works, upon sufficient proof, shall dismiss them accordingly, and if any master, working by task, shall not, upon admonition, reform this profanation among his apprentices, servants and labourers, it shall be construed his fault; and he shall be liable to be censured by the Commissioners."

CHAPTER X

SHELDONIAN AND TRINITY COLLEGE, OXFORD; TEMPLE BAR AND THE MONUMENT

There is a tradition which attributes to Wren the design of Brasenose College Chapel, and could this be substantiated, it would be to his own University that he owed his first commission. But since Brasenose is not mentioned in the manuscript list of his works, there seems to be no sufficient ground for disputing the commonly accepted theory of Pembroke College Chapel, Cambridge (foundation laid in 1663), being actually his earliest work of building. In that same year, however, he was given work in Oxford by Gilbert Sheldon, who, at the Restoration, had been appointed to succeed Juxon as Bishop of London, and who, within the space of a year or two, had been translated to Canterbury. He it was who commissioned Wren to build a theatre in Oxford in which the Acts might be held with more decency than, as hitherto, in the University Church of St. Mary.

In his will Sheldon describes himself as "holding fast the true orthodox profession of the Catholique faith of Christ . . . a true member of the Catholique Church within the communion of a living part thereof the present Church of England." Thus he held fast to the Laudian

tradition of reverence for holy places as an integral part of faith in God, and having witnessed with pain the annual profanation of St. Mary's, did not, in succeeding to the Primacy, forget the needs of Oxford. Deprived of the Wardenship of All Souls by the Visitors in 1647, imprisoned for his loyalty, and only released on condition that he never came within five miles of Oxford, he had taken refuge with friends in Derbyshire during the years of trouble, so that it is unlikely that he ever met Wren before the Restoration. But the fame of so brilliant a Fellow of All Souls must have reached him and determined him to trust to those capable hands the execution of a cherished plan to which he of his own private fortune devoted over £16,000,[1] so endowing the building, moreover, that its repairs have never to this day been a charge upon the University.

The Theatre, one of the group of grey buildings at the end of Broad Street, still stands much as Wren built it, the only external alteration being the disastrous destruction of the oval windows which diversified the roof and the rebuilding on a larger scale of the crowning cupola, a change made in that nineteenth century which had nearly run before architects came to realise that a reproduction of ornament does not indemnify for a destruction of proportion.

Wren seems to have derived his ground-plan from Serlio's[2] restoration of the Theatre of Marcellus, and to have further adhered to the antique tradition of the velarium in designing that flat wooden ceiling of his whose span was so remarkable that, the subject of laudatory monographs in

[1] According to Evelyn, £25,000. [2] See note, page 133.

his own time, it gave rise to much ignorant doubting at a later period, and was finally taken down about 1820, when the disfiguring alterations already deplored were undertaken. From the plans it would seem to have been no less secure than it was ingenious, though possibly some of the timbers may have required renewal.

The Marcellus plan is that of a circle, one half of which is enclosed by rectangular walls on three sides. In the curved portion which faces Broad Street, the rusticated basement contrasts most effectively with the lightness of the upper storey, while the elevation whose straight line faces the Schools betrays the architect's inexperience in an ungainly heaviness and a perceptible lack of concentration. The happy proportion to their niches of the statues flanking the engaged columns of this façade is, however, the more worthy of note that its secret is among those after which the architects of to-day are still groping.[1]

The interior, happily much as the architect left it, makes an impression of lightness the more striking for the almost grim severity of the exterior; nor must we forget that between the building of the shell and the furnishing of the interior Wren spent those six months in Paris which left so lasting a mark on his subsequent work. The rostrum, or stage, occupies the semi-circular space, but since no dramatic performances were to be provided for, the two galleries for spectators, corresponding to the two storeys of the exterior, run round the back of the rostrum without interruption, facing the musicians' gallery, which occupies the straight wall opposite.

1 For a deplorable instance of this, see the recently filled niches of the Southwark Cathedral reredos.

Dogmatists who agree to denounce all artifice as meretricious may sneer at the wooden marbles of the Sheldonian, but if once it be accepted that sham may be legitimate, it is impossible not to admire the proportions of the slender composite columns that support the upper gallery, their entablature surmounted by an attic which forms the balcony, the pulpits above the doors, right and left, the little semicircular balconies which project above the stairways. The spacing and moulding of the whole are full of the playfulness in which genius revels in its lighter moments, of that easy grace which is best acquired by a study of French achievements in art and letters. Nor did Wren sacrifice the practical utility of his theatre, for the acoustics are as satisfactory as the lighting which renders artificial light unnecessary by day.

The Theatre was six years in building, and formally opened at the end of the summer term, 1669. John Evelyn, who was present, records the event in his Diary:

"*July* 9. In the morning was celebrated the Encenia ot the New Theater, so magnificently built by the munificence of Dr. Gilbert Sheldon . . . and yet it was never seen by the benefactor, my Lord Archbishop having told me that he never did nor ever would see it."

The reason for this resolve must be sought in the Archbishop's conscientious devotion to this work, a devotion so indefatigable that he would not contemplate a journey of pleasure, and, though he survived till 1677, there is no record of a visit to Oxford.

The advance in skill which is so conspicuous during Wren's building of the Sheldonian (we must remember

that the time occupied is that which elapsed between the building of his two Cambridge chapels) is attributable no less to growing experience than to the visit to Paris, of which there is further trace in the terminal figures which break the monotony of the iron railing enclosing the precincts of the Theatre, for, as I have said above, they are an obvious adaptation of a *grille* of similar design at that *château* of Vaux-le-Vicomte of which Wren recorded his admiration in his letter from Paris. The butt of undergraduate irreverence for two centuries and a half, the heads have required constant renewal, so that we cannot credit Wren with all their rugged absurdity, but they were probably grotesque from the beginning, and very inferior to their French prototypes. Still the designs are too closely identical for any theory of coincidence—identical even to the simplicity of the iron bars devoid of all ornament save for a prolongation to a spiral of florid design of the centre bar of each bay.

Of Wren's personality at the time of his building the Sheldonian there is a vivid impression in a letter, dated June 8, 1669, addressed by Sir John Clayton to Sir R. Paston :

"Saturday last," writes Sir John, "I went with the Duke of Buckingham to Denham . . . in our return home we dined at Uxbridge, and never in all my life did I pass my day away with such gusto, our company being his Grace, Mr. Weller, Mr. Surveyor Wren, and myself ; nothing but quintessence of wit and most excellent discourse."

The Sheldonian was begun in 1664, and must have brought Wren often to Oxford, where, in 1665, his friend

Dr. Bathurst called upon him for advice concerning some new buildings urgently needed at that College of Trinity of which he was master. The architect advised a long range of chambers, but the subscribers to the fund clung to the old University tradition of a quadrangle. Wren, who was about starting abroad, writes as follows to Dr. Bathurst:

"My honoured friend,—I am convinced with Machiavel or some unlucky fellow, 'tis no matter whether I quote true, that the world is generally governed by words. I perceive the name of a Quadrangle will carry it with those whom you say may possibly be your benefactors, though it be much the worst situation for the chambers, and the beauty of the college and of the particular pile of building. If I had skill in enchantment to represent the pile, first in one view, then in another, that the difference might be evidently seen, I should certainly make them of my opinion, or else I will appeal to Monsieur Mansard, or Signor Bernini, both which I shall see at Paris within this fortnight.

"But to be sober, if any body as you say, will pay for a Quadrangle, there is no dispute to be made; let them have a Quadrangle, though a lame one, somewhat like a three-legged table. . . .

"You need not use any apologies to me, for I must beg of you to believe you may command me in things of greater moment, and that I love to serve you as your most affectionate friend and servant,

"CHRISTOPHER WREN.

"*June* 22, 1665."

after re-erected as the entrance to Theobalds Park, Hertfordshire) is chiefly interesting as Wren's first public monument. His task, undertaken in 1670 and completed in two years, was of considerable difficulty: to build across the narrow thoroughfare of Fleet Street an arch of dignity not unworthy to mark the spot where, in accordance with long-established precedent, the Lord Mayor must meet the Sovereign whenever it is the royal pleasure to visit the City. But practical considerations were of no less importance, and, while the arch must be supported upon the narrow footway, and its supports pierced by posterns for foot passengers, the road must by no means be encroached upon.

Serlio's book,[1] in which Wren obviously sought for some assistance, contains many suggestions for triumphal arches, but none of these had the necessary qualifications, and, indeed, an arch of wide span hemmed in by narrow ones of almost equal height offered almost insuperable difficulties; but difficulty was ever an incentive to Wren's enterprise, and if anything is needed to warn the civic authorities of the danger of attempting to indemnify London for the loss of Wren's work, the bronze achievement which marks the place where Temple Bar once stood should serve the purpose.

None of the old City gates still standing at the time offered the least resemblance to the arch of rusticated masonry in Portland stone which Wren threw over Fleet Street. It must not be considered apart from its original site; to serve as entrance to a country domain it is mani-

[1] A text-book which seems to have been constantly used by Wren was Peake's translation (folio, London, 1611) of Sebastiano Serlio's *Cinque Libri d'Architettura*, published in Venice, 1560.

festly inappropriate, supplying space where less had sufficed and cramped where expansion were easy, but in its own place it had distinction. Above the middle arch was a guard-chamber, its east and west walls each displaying an order of four engaged Corinthian pilasters crowned by a segmental pediment, on either side; the middle space was occupied by round-headed windows, those left and right of these by niches containing statues of Charles I. and Charles II. on the west side, and on the east of James I. and Elizabeth, or, as some say, of Anne of Denmark.

Temple Bar was not completed when another task was thrust upon Wren—that, namely, of commemorating the Great Fire, "the late dreadfull Conflagration" as it is called in contemporary inscriptions, by the erection of a monument upon the spot where the flames had first broken out. Evelyn, whose interest in Wren and his work never flagged, considered that the spot to commemorate was rather that at which the Fire had stopped short, but Charles II. probably preferred what was indeed then, as it is now, the more central position. Wren realised that, for a memorial which should rise above the crowded roofs of the City, no form was more appropriate than that (so much favoured in ancient Rome) of a single column of colossal proportions, and accordingly submitted a design. It was of slightly less bulk than the one ultimately erected, and was in the form of a plain Roman Doric column with brazen flames bursting at intervals from its shaft—flames which should serve the double purpose of ornament and of concealing the narrow windows which gave light to the stairs within. It is said that Wren had been the more bent on a single column design, because he conceived of such an one as

lending itself to certain experiments for which the Royal Society had no suitable apparatus: the vibrations caused by traffic, however, were found to hinder any such usefulness. As we have said, the design met with no approval, and Wren then made the one eventually executed, but not as he wished, for he had intended, after the Roman manner, to set a colossal figure atop his column: a statue of the King or a symbolical figure of the City of London. The awkward brass urn eventually set up and still in place is not of his designing. Much as it was admired by his contemporaries, the Monument cannot be counted among Wren's most striking successes. It is a conventional adaptation of an antique model, and chiefly interesting as an excellent foil to the imaginative spire of St. Magnus, built twenty years later.

It was on February 19, 1671, that Christopher Wren, dining with John Evelyn in Dover Street to meet Mr. Samuel Pepys, Clerk of the Acts, first heard of an artist whose name would henceforth be associated with his own in many of his greatest works. Evelyn relates in his Diary how he showed his friends a piece of carving by a young craftsman of obscure Dutch origin, and told them, as he had told the King about a month before, how, sauntering one day through Deptford, in the neighbourhood of his home, Sayes Court, he had chanced to see through the windows of a "poore solitary thatched house" a man intently engaged upon wood-carving. To Evelyn's amazement, he recognised the subject of the man's work as derived from Tintoret's "Crucifixion," a copy of which he had himself brought back from Venice some twenty-five years before.

"I asked," continued Evelyn, "if I might enter; he open'd the door civilly to me, and I saw him about such a work as for the curiosity of handling, drawing and studious exactness, I never had before seene in all my travells. I questioned him why he worked in such an obscure and lonesome place; he told me it was that he might apply himself to his profession without interruption, and wondered not a little how I had found him out. I asked if he was unwilling to be made knowne to some greate man, for that I believed it might turn to his profit; he answer'd he was yet a beginner, but would not be sorry to sell off that piece; on demanding the price, he said £100. In good earnest, the very frame was worth the money, there being nothing in nature so tender and delicate as the flowers and festoons about it, and yet the worke was very strong; in the piece were more than 100 figures of men etc. I found he was likewise musical, and very civil, sober, and discreete in his discourse. There was only an old woman in the house. So desiring leave to visite him sometimes, I went away.

"Of this young artist, together with my manner of finding him out, I acquainted the King, and begg'd that he would give me leave to bring him and his worke to White-hall, for that I would adventure my reputation with his Majesty that he had never seene anything approch it, and that he would be exceedingly pleased, and employ him. The King said he would himselfe go to see him. This was the first notice his Majesty ever had of Mr. Gibbon,"[1] adds John Evelyn with some pride.

[1] John Evelyn spells his name without the final *s* now usually adopted.

On March 1st, Evelyn writes: "I caused Mr. Gibbon to bring to White-hall his excellent piece of carving, where being come I advertis'd his Majestie, who ask'd me where it was; I told him in Sir Richard Browne's (my father-in-law) chamber, and that if it pleased his Majesty to appoint whither it should be brought, being large and tho' of wood heavy, I would take care for it; 'No,' says the King, 'shew me the way, I'll go to Sir Richard's chamber,' which he immediately did, walking along the entries after me; . . . No sooner was he enter'd and cast his eye on the work, but he was astonished at the curiositie of it, and having consider'd it a long time and discours'd with Mr. Gibbon, whom I brought to kisse his hand, he commanded it should be immediately carried to the Queene's side to shew her. It was carried up into her bed chamber, where she and the King looked on and admired it againe; the King being call'd away left us with the Queene, believing she would have bought it, it being a crucifix; but when his Majesty was gon, a French pedling woman, one Mad. de Boord, who us'd to bring peticoates and fanns, and baubles out of France to the Ladys, began to find fault with severall things in the worke, which she understood no more than an asse or a monkey, so as in a kind of indignation, I caused the person who brought it to carry it back to the chamber, finding the Queene so much govern'd by an ignorant French woman, and this incomparable artist had his labour onely for his paines, which not a little displeas'd me, and he was faine to send it downe to his cottage againe."

Scarcely any more is known of Grinling Gibbons than

Evelyn here relates. Even his Dutch origin is disputed, but historians agree that he was born in 1648, and died in 1720. It is manifestly impossible that, employed as he was, now at Windsor, now at Petworth or Chatsworth, he could have executed all the carving traditionally associated with his name in the City, and indeed, except at St. Paul's, I have recognised his work but rarely. St. Martin's, Ludgate, St. Mary Abchurch, and All Hallows, Lombard Street, are among the few churches whose carvings bear the mark of Gibbons's hand, but it is in one of the churches which survived the Fire, All Hallows, Barking-by-the-Tower, namely, that he is best represented. The marble fonts of St. Margaret's, Lothbury, and St. James's, Piccadilly, are attributed to him, as well as the carving of many stone wreaths at St. Paul's.

Long study of the parish churches of the City has compelled me to the conviction that Gibbons's share in their decoration has been very much exaggerated. It is impossible to over-estimate Gibbons's skill as a carver of wood, and his *putti* upon the font cover of All Hallows, Barking-by-the-Tower, and upon the choir stalls of St. Paul's, make us regret that he should have been encouraged to devote so much time to naturalistic flowers and leaves that flutter in the wind, or to those sensational trophies of the chase which pander to the sportsman's pride in dead things. His work in marble, the fonts above mentioned, and his remarkable bronze statue of James II. are sufficient evidence of a technical facility too often devoted to tasks whose performance produces rather wonder than admiration.

That the carving of those solid wreaths, severely conventional mouldings, and fretwork panels which relieve the

wainscot of the parish churches and cluster about their altars, follows an unbroken British tradition, can be proved by an inspection of the carvings of All Hallows, Barking-by-the-Tower, most of which date from 1634.

It is in the highest degree unlikely that an artist who, when discovered by Evelyn, had already attained consummate skill, would have been set by Wren, a master in the selection of material, to produce what could be perfectly well executed by skilled workmen under the architect's direction. Nor must it be forgotten that these workmen, while adhering closely to the supplied designs, were not lacking in that strange power of impressing personality on pattern which alone gives vitality to handicraft, and of which the nineteenth century lost the secret.

CHAPTER XI

TRINITY LIBRARY, CAMBRIDGE; HONYWOOD LIBRARY, LINCOLN

One of the earliest public recognitions of Wren's merits had been the eulogy pronounced in 1662 by Dr. Isaac Barrow on the occasion of that distinguished mathematician's appointment to the Gresham Chair of Geometry. Barrow, who, though consistently a "King's man," waited many years after the Restoration before receiving any special mark of court favour, but was in 1663 nominated to the newly founded Lucasian Professorship of Mathematics at Cambridge. His sensitive conscience forbade his following the fashions of his day by retaining his post at Gresham College, and, in 1669, prompted him to resign his mathematical chair at Cambridge to Isaac Newton, a pupil of his own whose superior attainments he was quick to recognise.

That Charles II. had not quite forgotten Barrow was proved by the conferring upon him in 1670 of the degree of Doctor of Divinity by Royal Mandate, while, two years later, he was appointed to the Mastership of Trinity College, Cambridge.

A Churchman of the school of Sheldon, one of his first actions was formally to propose to the other heads of

colleges that Cambridge should follow the lead of the sister University by building a theatre in order to protect the Church of St. Mary from the profanation consequent on the custom of holding speeches there. For all his fervour, he could gain no support for his project, and he came away from the meeting dauntlessly declaring that, since his plans of building must be confined to the needs of his own college, he would build there upon a grander scale than any that he had proposed to his niggardly colleagues. Trinity College Library had been devastated by fire some seven years before, and, on the very day of the failure recorded above, Barrow is said to have summoned his servants and gardeners, and, with their help, to have staked out the ground for a new and greater Library. The site of his choice lay in the meadow half-way between the Cam and the western boundary of the enclosure known as Neville's Court.

Finding that it would be impossible to build in a worthy manner out of the available College funds, Barrow wrote with his own hand such telling appeals that money flowed in and allowed of the works being undertaken without delay ; and Wren, who, as a personal friend of the Master, gave his services for nothing, set about designing with that zest, that careful consideration of practical detail, which ever distinguished him. The collection at All Souls, Oxford, includes many of his designs for Trinity, Cambridge, elevations and sketches not only of the Library as eventually completed, but of an earlier design whose realisation was made impossible by the need of a prolongation of Neville's cloister towards the west. For the irregular rectangle of Neville's Court underwent changes even while

the plans for the new Library were under discussion, and the outer walls of Wren's building were but three-quarters completed when Dr. Barrow died.

At the time of Barrow's impetuous staking-out, Neville's Court, now closed at the western end by the Library, was of little more than half its present size; the Great Hall formed indeed the eastern end, but the cloistered range of buildings north and south boasted but twelve bays in place of twenty, and the western boundary was formed by a wall with a central gate leading to the meadows by the river. That Barrow was mindful of need arising for future extension of College buildings is sufficiently proved by his setting his Library site so far west, while that the change was not regarded as imminent seems equally obvious, since, in his first plan, Wren ignored any such eventuality. This design of his took the form of a circular Library with a domed roof, approach to which from the Court side would be by a double staircase, above which the entrance was by a portico of six semi-engaged columns, while, on either side, a dwarf wall surmounted by a railing connected the building with the cloisters, for apparently the destruction of the western wall and gate had already been decided.

This plan of Wren's can scarcely have been seriously considered, for, soon after Barrow's appointment to the Mastership, the prolongation by eight bays of each side of Neville's cloister seems to have been undertaken.

Save in a few unimportant details, the plan illustrated by the remaining drawings was exactly carried out; and the series is the more interesting for a long written explanation of them which is also in the collection at All

Souls. It is neither addressed, nor signed, nor dated, but, from internal evidence, it can only be attributed to Wren's own hand or to his dictation, while it seems no less obvious that it is addressed to Dr. Barrow.

"Sr," runs the manuscript comment, "a building of that consideration yoe goe about deserves good care in the designs and able workemen to performe it, and that he who takes the generall management upon him may have a prospect of the whole and make all parts inside and outside corresponde well together. To this end I have comprised the whole designe in 6 Figures."

Apart from the figures, of which limited space forbids the reproduction, the text is too technical for general reading, but from his remark on Fig. 3 (an eastern external elevation) I extract the following, after noting that the circular pavilions for staircases at either end were never executed.

"Fig. III.

"Shewes the face of the building next the court with the pavillions for the staircases and the Sections of the old buildings where they joyne to the new. I chose a double order rather than a single, because a single order must either have been mutilated in its members [*i.e.*, the columns would have been built in vertical sections], or have been very expensive, and if performed would have not agreed with the lowness of the porches [*i.e.*, arcades] which would have been too darke and the solids too grosse for the openings. I have given the appearance of arches

as the Order required fair and lofty: but I have layd the floor of the Library upon the impostes, which answar [*sic*] to the pillars in the cloister and the levells of the old floores, and have filled the arches with relieves of stone, of which I have seen the effect abroad in good buildings [I have failed in identifying his precedent], and I assure you where porches are lowe with flat ceilings is infinitely more gracefull than lowe arches would be and is much more open and pleasant, nor need the mason freare [*sic*] the performance because the Arch discharges the weight, and I shall direct him in a firme manner of executing the designe. By this contrivance the windows of the Library rise high and give place for the deskes against the walls, and being high may be afforded to be large, and being wide may have stone mullions and the glass pointed, which after all inventions is the only durable way in our Climate for a publique building, where care must be had that snowe drive not in. I have given noe other Frontispiece ["ornament" erased] to the midle then Statues according to ancient example, because in this case I find any thing else impertinent, the Entrances being endwaies and the roofe not suiting it. This may be don if you please, you may make the three middle Arches with 3 quarter-columnes and the rest with pilasters of a third of their Diameter, which will save some charge in stone, but it is best as it is designed."

To the reader of this last paragraph the question suggests itself whether indeed the plan which the architect here suggests as an economical but undesirable alternative would not have concentrated his design more agreeably

Photo by Valentine

PLATE 8.—TRINITY COLLEGE LIBRARY, CAMBRIDGE

To face p. 144

and effectually than the statues on the sky-line which alone accentuate its centre. Compelled, moreover, to recognise the exceeding awkwardness of the angles formed by the juncture of his work with Neville's, we can but wonder how it came about that, while laying such desperate stress upon the necessity for making his floor-level coincide with that of the buildings at right angles—a stress which obliged him to that blocking of his arches which is the crowning defect of his façade, and his vindication of which but serves to leave us the further convinced of its faultiness—he yet made no attempt to bring his horizontal mouldings into harmony with those of Neville.

It is true that a careful survey of this elevation reveals the fact that Wren's great order of columns follows the true Palladian manner in that it supports but its own architrave, the upper order, and the balustrade, while the actual structure rests upon the recessed pilaster order, the scale of which is adapted to that of Neville's cloister, but the arches which combine these inner piers bear the same proportion to these outer columns as do the jambs of the windows to those above them, and the solid tympana dwarf the dimensions of this lower stage, while the fact that the actual opening tallies with the crown of the arches of the lighter Jacobean cloister affords little æsthetic relief. A superficial resemblance, due to its being raised upon cloisters, and to the fact that its façade exhibits two orders, has made it customary to trace the outlines of Wren's western elevation (that looking east into Neville's Court) to that of Sansovino's great library at Venice. But of the sumptuous frieze which forms so conspicuous a part of the Italian's design there is no trace in Wren's, nor is there evidence to prove

him to have been intimately familiar with Italian architecture other than that reproduced by Serlio and Palladio. He was, moreover, committed to a cloister, not only by his determination to harmonise his design with that of Neville, and by established University precedent, but above all by old acquaintance with the damp soil of Cambridge, which made it essential to the preservation of books that they be housed in such a manner as to allow the passing of air between them and the ground.[1]

"The Substruction Cloister," as Wren terms it, in the letter from which I shall continue to quote, has a flat, trabeated ceiling, upborne, like the vaulted crypt under the centre pavement of St. Paul's, by pillars of his "favourite Roman Doric." "I have," he writes, "chosen middle pillars and a double porticoe [*i.e.*, arcade], and lightes outward rather than a middle wall, as being the same expence, more gracefull, and according to the manner of the ancients who made double walkes (with three rowes of pillars or two rowes and a wall) about the forum."

That certain dullness of diffusion, of which Wren partly relieved his western elevation by statues, is even more conspicuous in the river-front, of which he writes:

"I designe after a plainer manner to be performed most with Ashler, the three portalls one against each cloister

[1] In John Evelyn's translation of Naudé's *Instructions concerning Erecting of a Library*, published in 1661, a book with which Wren must have been familiar, there occurs this passage: "It will always be fit to place it in the middle stages [*i.e.*, storeys] to avoid the dampness of the ground, which engenders mouldiness."

Photo by Valentine

PLATE 9.—RIVER-FRONT, TRINITY COLLEGE LIBRARY, CAMBRIDGE

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[*i.e.*, forming the ends of the north and south walks of Neville's Court], and one in the middle and the pavillions for the staires give it grace enough for the viewes that way."

He leaves us unpersuaded, for although the domed pavilions at either end would have afforded some variety, they could not have redeemed the meanness of the plain ashlar strips which frame the windows. Nor can the solid upper half of the tall doorways, occasioned like the stone tympana of the western elevation by the low floor of the upper storey, be esteemed a happy contrivance; the disproportion between the architrave of the doorways and the top mouldings of the low windows is, moreover, very unpleasing.

Access to the Library is by a staircase at its northern end, a staircase of wide treads with a very fine iron handrail, and a stucco ceiling of a sumptuousness recalling those of Pembroke and Emmanuel College Chapels.

If the exterior of Trinity Library be open to criticism, the interior deserves nothing but praise, and indeed it is here rather than in the experimental daring of St. Stephen's, Walbrook, which was built at the same time, that the greatness of Wren, as a master above all things of proportion,[1] first revealed itself. No book-room in the world better adapts itself to study: the symmetry induces calm, the light falling from above on the printed page allows free play to the mind, while upper walls, bookcases,

1 "The master whose design is the assertion of masculine vigour, of grand spacing and projection, of the clean beauties of proportion."—D. S. McColl on St. Paul's in the *Saturday Review*, 1899.

of funds, the ceiling was left plain in his time, and its trabeation, for which happily a plan of his remained extant, was not executed until the middle of the nineteenth century. The niches at the end of the room are also later additions, but so skilfully are they inserted that they seem an integral part of the scheme.

The curious classical composition known as the Tribunal, which stands on the opposite side of Neville's Court facing the Library, was undoubtedly built at the same time, and is attributed by some to Grumbold, the architect of Clare College, by others to Wren. It reflects little credit upon either, but is interesting as affording additional testimony to the curious exclusiveness of taste which prevailed in that later seventeenth century, an exclusiveness which, not content with building henceforth in the "better Roman manner," went so far as to regard Gothic not merely as unsightly but as unseemly. For this stone erection, with its purposeless balustrade and stair, but serves to veil the side-wall of the Gothic hall of Trinity.

Before Wren had completed his great Library at Trinity College, Cambridge, he was called to a similar task yet farther east by desire of Dean Honywood, of Lincoln.

Having been deprived of his living of Keyworth, Leicestershire, as a Royalist parish priest, Honywood had spent the years of the Protectorate at Utrecht, devoting his time to study and the collecting of books. Appointed to the Deanery of Lincoln at the Restoration, he found the Cathedral mutilated by Puritan violence, and at once set himself to restore as far as possible, not the fabric alone, but also the dignity of the daily worship. The raising of

money, the reclaiming of lapsed ecclesiastical rights, occupied many years, and it was not until 1674 that he could contemplate the execution of his long-cherished plan of building a library for those books collected in exile, which he intended to bequeath to the Cathedral.

The north walk of the cloisters had long been a ruin (more than two centuries before horses had been stabled upon the site), and it occurred to Honywood to rebuild the missing side of the quadrangle and house his books above it.

Wren, who, except under compulsion, never built in any manner but his own, made no attempt to attune his work to the Gothic sombreness of the other sides of the garth, but—at all times a lover of sunshine and well aware, moreover, of the importance of air and light to the preservation of books—raised the south wall of his library on Roman-Doric pillars of unusual slenderness, and pierced the wall above them with many tall windows. The nine bays of this southern elevation are not strengthened by buttresses at intervals like those of Symon's cloister at Trinity, Cambridge, but, in considering this omission, we must bear in mind that Wren never intended this side of his structure to bear the weight of book-cases, the upper storey of the solid northern wall behind the cloister amply sufficing for the storing of the Dean's library.

The building is of the local yellow stone (known as "Ancaster"), of which Wren made use again ten years later for another Lincolnshire work—Belton Hall; and this substance, one which mellows to a dull gold, admirably sets off the pearly grey of the Portland stone of which pillars, architraves, and window-frames are wrought. The windows deserve especial attention, for the architect has

Photo by Smith, Lincoln

PLATE 11.—HONYWOOD LIBRARY AND CLOISTER, LINCOLN

given variety to what would otherwise have been a monotonous scheme by enhancing the dignity of the third, sixth, and ninth of his eleven windows by means of heavy horizontal mouldings supported by consoles, and by replacing the armorial keystones of the rest by a stone wreath in the case of these three. The stylobates which support the window sills are noticeable as carrying the perpendicular lines of their jambs to the horizontal moulding above the arches, and so increasing the apparent height of a long low building.

Access to the library is by a staircase in the north-west corner of the cloister and through the little mediæval room which had sufficed for the library of former days. The transition from this poorly lit, low-raftered chamber to the light and space of Wren's long book-room is almost dazzling, and admirably typical of the startling change which had come over the minds of Englishmen during the two centuries and a half that elapsed between the times of their building. In the one, schoolmen might have pored over the intricacies of the *Summa*, in the other, the smiling spirit, the easy erudition of Erasmus seems abroad, the spirit, the erudition which, interpreted for Englishmen by Colet, culminated in that vigorous English Churchmanship which suffered indeed a temporary eclipse, and the no less vigorous research of the Royal Society. Of the Church's ultimate triumph, of the geniality engendered by the wide tolerance for other men's opinions which distinguished the Royal Society, the Lincoln library is alike the monument.

We see it to-day much as Wren left it, save for the book-cases, which now fill the spaces between the windows

and make the room narrower. It was inevitable that the store of books should increase, yet we cannot but deplore a departure from the architect's original plan. The blank panel above the entrance door was necessitated by the different pitch of the ceilings of the two rooms it unites, and it must surely once have borne or have been designed to bear an inscription, probably the founder's name and some commemoration of his bounty. The segmental arch which crowns the door-case has its fellow above the opposite window, and both alike bear the Honywood arms. The ceiling is flat save for a slight coving above the cornice. The book-shelf mouldings are adapted from that of the heavy cornice, and both are alike skilfully interrupted by breaks which give variety of light and shade, while in the middle of each subdivision is a label-like flat space obviously intended for the display of lettering descriptive of the class of volumes below.

Of the domestic life of Sir Christopher Wren we are so scantily informed that it seems best to place the few facts of his family history together and frankly admit, in the words of his biographer, James Elmes, that "the life of Wren at this period [that, namely, of an architectural activity which, beginning in his thirty-first year, continued almost to the day of his death] presents little more than a catalogue of dates of his public works."

On December 7, 1669, the year of the completion of the Sheldonian Theatre, Christopher Wren, then in his thirty-eighth year, married Faith, daughter of Sir John Coghill, of Bletchingdon, Oxford. The rectory of Bletchingdon was, it will be remembered, the married home of Wren's

Photo by Smith, Lincoln

PLATE 12*a*.—DOORWAY, HONYWOOD LIBRARY, LINCOLN CATHEDRAL

Photo by Smith, Lincoln

PLATE 12*b*.—HONYWOOD LIBRARY, LINCOLN CATHEDRAL

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sister, Susan Holder : there Dean Wren had died, and there, though no monument marks the spot, he is recorded to have been buried in the church. It seems probable, therefore, that it was during some sojourn at his sister's house, which is within easy riding distance of Oxford, that Christopher Wren first met Faith Coghill. Of the lady herself no detail has come down to us, but among the manuscripts contained in the interleaved copy of *Parentalia*, the property of Mrs. Pigott, one of Wren's few descendants, there is an undated letter written by him to his betrothed which, bearing the stamp of his characteristic gaiety, deserves to be quoted entire. The occasion for its writing seems to have been that Faith Coghill, having accidentally dropped her watch into water, had committed it to her lover's keeping for repairs :

" Madam,—The artificer having never before mett with a drowned Watch, like an ignorant physician has been soe long about the cure that he hath made me very unquiet that your commands should be soe long deferred ; however, I have sent the watch at last and envie the felicity of it, that it should be soe neer your side, and soe often enjoy your Eye, and be consulted by you how your Time shall passe while you employ your hand in your excellent workes. But have a care of it, for I put such a Spell into it that every Beating of the Ballance will tell you 'tis the pulse of my Heart which labours as much to serve you and more Trewly than the watch ; for the watch I believe will sometimes lie, and sometimes perhaps be idle and unwilling to goe, having received so much injury by being drenched in that briny bath, that I dispair it should

ever be a Trew Servant to you more. But as for me (unless you drown me too in my Teares) you may be confident I shall never cease to be,

"Your most affectionate, humble servant,

"CHR. WREN."

Of this marriage two sons were born: Gilbert, who died in infancy, and Christopher, born February 18, 1675, who survived his father, was the author of that very incomplete chronology of his father's life and work which is among the Lansdowne MSS., and collected the materials for those carelessly compiled family records which his son Stephen (born May 14, 1722) published as *Parentalia*.

The first Lady Wren (Sir Christopher was knighted in 1672[1]) died in September 1675, but a few months after the birth of her second son; and, in the following year, Sir Christopher was married in the Chapel Royal, St. James's, to Jane FitzWilliams, daughter of Lord Lifford. By his second wife Sir Christopher had two children: Jane, born in 1677, and William in 1679. The son survived his father, while the daughter, for all the years of her short life her father's companion (the second Lady Wren had died

1 According to most authorities, but in a letter in the Sloane Collection, British Museum, addressed by the younger Christopher Wren to Mr. Ward (author of *Lives of Gresham College Professors*), dated Hampton Court, January 24, 1740, an inquiry of Mr. Ward's for date of knighthood is answered as follows: "I have no account of the exact time when he [*i.e.*, the writer's father] was knighted. In the Royal Commission for building St. Paul's, dated November 12, 1673, he is still Doctor of Laws. A warrant signed by Lord Arlington, signifying his Majesty's pleasure, dated 18 February, 1674-5, is directed to Sir Christopher Wren, Kt., so there can be little or no mistake to assign the time to the year 1674."

in the year of her son's birth), was laid to rest twenty years before him in the crypt of St. Paul's, where a charming inscription records the sweetness of her disposition and her skill in music. Legend has associated her name with the design of the curious Gothic spire of St. Dunstan's in the East, but that form is now generally considered to have been in some measure suggested by the ancient spire St. Mary-le-Bow; and indeed it was not an uncommon form in the Perpendicular period, as the similar crown spires of Newcastle Cathedral and of St. Giles's, Edinburgh, exemplify.

CHAPTER XII

THE OBSERVATORY, GREENWICH; ROYAL HOSPITALS OF CHELSEA AND KILMAINHAM

In 1675, the Duchess of Portsmouth, then high in the King's favour, brought to the royal notice a countryman of her own, the Sieur de Saint Pierre, who had come over to England in hope of remuneration for an invention which he claimed to have made. This purported to be a method of discovering the longitude by measuring the moon's distance from certain fixed stars, and Charles II.'s quick intelligence at once realising the immense importance of such a discovery to the art of navigation, he appointed a Commission of Inquiry.

A young astronomer named Flamsteed, whose investigations had for some time past attracted the attention of the Royal Society, was among the selected commissioners, and effectually exposed the emptiness of the Frenchman's claim by demonstrating how little was actually known of the very fixed stars upon which he founded his data. In the course of this demonstration, the speaker displayed a learning so remarkable, a critical faculty so acute, that Charles, keenly desirous that his seamen should benefit by science to the utmost possible extent, forthwith appointed Flamsteed "Astronomical Observator," a royal warrant

directing him to "apply himself with the most exact care and diligence to the rectifying the tables of the motions of the heavens and the places of the fixed stars, so as to find out the so-much-desired longitude of places for the perfecting the art of navigation."

For the last four or five years, Flamsteed's observations had been made from the round north-eastern turret of the White Tower in the Tower of London by permission of Sir Jonas Moore, Master of Ordnance, to whom the astronomer in his autobiography owns himself to have been "an egregious debtor," owing to his "natural civility and generosity" not only access to the Tower roof, but also such instruments as the skill of the Tower armourers sufficed to manufacture under his direction. The office of inspecting the harbour and defences of Tangier, which Christopher Wren had declined in 1663, had been filled by Moore, who was a man of very varied attainments and a member of the Royal Society since 1674. Nor was he the only Tower official friendly to Flamsteed, for Sir Christopher Wren, as Surveyor-General, was just then engaged in making certain structural alterations in the White Tower, enlarging the windows and capping the turrets with the pert leaden cupolas[1] which to this day impart to the old fortress a geniality so strangely at variance with the spirit of its Norman founder. Flamsteed's acquaintance with Wren had begun at least five years before he attracted the King's notice, for already (in 1670) he had coupled his name with those of Lord

1 The turrets had indeed borne leaden caps for a long time past, but the form of those now standing bears the unmistakable mark of Wren's hand.

Brouncker and Oldenburg in the dedication to them, "and other astronomical members of the Royal Society," of a tract on "Fixed Stars."

As a court official, Flamsteed could no longer be allowed to pursue his investigations by private favour from the Tower leads; and Wren, at once an astronomer and architect, was naturally one of the committee called to select a suitable site for the Observatory, which the King desired to see built without delay. Various sites were submitted for consideration, among others Hyde Park (which Sir Jonas Moore chiefly favoured), and Chelsea College grounds, which had lately become the property of the Royal Society. Wren was, however, too practical to approve the founding of an observatory save on a natural eminence, and it occurred to him that just such an one was at present occupied by the scanty ruins of Greenwich Castle. His advice in such matters appears to have been rarely disputed, and Flamsteed tells how, "Greenwich Hill being mentioned by Sir Christopher Wren, the King approved of it as the most proper."

The Royal Warrant to the Master of Ordnance, dated June 22, 1675, runs as follows:

"Whereas, in order to the finding out of Longitude of Places for perfecting of Navigation and Astronomy, We have resolved to build a small Observatory within Our park at Greenwich, upon the highest Ground at or near the Place where the Castle stood with Lodging-rooms for Our Observator and Assistant, Our Will and pleasure is that, according to such Plot and Design as shall be given you by our trusty and well-beloved Sir Christopher

Wren, Knight, Our Surveyor-general, of the Place and Scite of the said Observatory, you cause the same to be fenced in," etc., etc.

The King granting £500 in money, bricks from demolished fortifications at Tilbury, and lead from a gatehouse in the Tower, the foundations of the new structure were laid on August 10, 1675, and it was already roofed in by Christmas of the same year.

Wren's building of red brick with stone coigns stands to this day, and, from the site of his selection, the skies have been scanned for over two centuries without interruption. It is curious that a man so versed in science should not have been careful to make his aspects correctly north and south; but we must remember the great haste with which the work was done, the paltry sum that was deemed sufficient, and consider that, likely enough, use was made of the old Castle foundations, in order to save at once time and money.

The chief elevation, that looking north over Greenwich towards the Thames, is curiously ungainly. In order, it would seem, to make this river front more imposing than it would have been had the external walls followed the re-entrant angles of the great octagonal observing room within, Wren continued his brick wall on either side the tall north window, and diversified this screen by dummy windows of factory-like austerity without any external moulding. The stone coigns of this wall (which has three basement windows below those mentioned, and is therefore almost exactly square) are further strengthened by volute-shaped buttresses flanked in their turn by the two projecting pavilions with domed roofs which complete the façade.

The centre portion, of which the octagon is the core, is surmounted by a coarsely designed stone balustrade, at each end of which are two turrets whose leaden cupolas recall those of the White Tower.

The interior of the octagon-room, from the tall windows of which old engravings show us the astronomer and his assistant observing, no longer serves any astronomical purpose, but, save for the disappearance of telescopes and quadrants, would seem to have undergone but little alteration. The proportions, dictated as they were, not by taste, but the necessity of commanding from the windows the utmost expanse of the sky, cannot be æsthetically considered, but the pediments which crown the doorways, the thin frieze of naturalistic foliage in stucco, the mouldings of the wainscot, exhibit none of the dignity which came to characterise Wren's work, and both exterior and interior of the Observatory are architecturally interesting only as exhibiting how much their architect had still to learn before conceiving the colonnades of Greenwich Hospital or the perfectly proportioned garden-front and quadrangle of the little retreat for Decayed Merchants which he built twenty years later on the other side of Greenwich Hill.

It was by Wren's workmen busied in the Tower in 1674 that, at the foot of the staircase leading to St. John's Chapel in the White Tower, a wooden chest was discovered containing the bones of two children, and recognised as those of the murdered Edward V. and his brother Richard Duke of York. It had been ever a tradition that the remains of the Princes had been buried in consecrated ground by the Priest of the Tower, and this place of burial

might have been so described, as it was immediately below the chapel. Recent historians have found reason to doubt the identity of the remains, but Charles II. was so little sceptical that he desired that they be re-interred in the royal resting-place of Westminster Abbey, close to the little princesses Mary and Sophie, the infant children of James I., and Wren himself designed the marble urn which, inscribed with a long Latin epitaph, marks the spot. It is a dull, formal piece of work which makes one regret that Grinling Gibbons had not been commissioned to execute it.

The warrant to Sir Christopher Wren, Knight, Surveyor-General of his Majesty's Works, is as follows:

"These are to signify his Majesty's pleasure, that you provide a White Marble Coffin for the supposed Bodies of the two Princes lately found in the Tower of London, and that you cause the same to be interred in Henry the Seventh's Chapel, or such convenient Place as the Dean of Westminster shall appoint: and this shall be your Warrant. Given under my Hand, the 18th day of February 1674–5.

"ARLINGTON."

It might have been supposed that Wren, with St. Paul's Cathedral and fifty parish churches to rebuild, would have been excused from undertaking work oversea, but, need arising for a Hospital for Disabled Soldiers in Ireland, it fell to him as the King's Surveyor-General to design it.

We read in *An Account of Dublin Hospital*, published in 1711, that:

"Ireland, having enjoyed many years of Peace during the Reign of His Majesty Charles the Second . . . the

Army living without Action produced in about Twenty Years many Old Soldiers, who having honestly served the King from the time of their Youth and being arrived to Old Age, which rendered them uncapable of further Service in the Army, they could not properly be continued any longer in the same; and they, by their constant Service therein, had neglected all the other ways of procuring a Livelihood, by Arts or Trades, must of necessity Starve if Dismist.

"This consideration was the Ground of all those Provisions made by the Romans for Disabled Soldiers . . . but our Modern Princes endeavour still to outdo the Past, and, this entering into the thoughts of Lewis the 14th of France, produced that stupendious Pile by him named the Invalids . . . of whose Splendour, Grandure and Decorum the Publick Printed Description speaks . . . And 'tis not to be doubted but from the Excellency of that design sprung the Notion of building the like in this Kingdom."

The old rivalry in arms between the neighbouring nations had indeed, for a while, given place to a rivalry in the arts of peace between the cousins-german who respectively occupied the thrones of France and England, cousins with many characteristics in common; prone alike to superstition coupled with consistent immorality of conduct and an ambition for their people's glory whenever it did not interfere with the gratification of their own desires.

The credit for the benevolent idea which culminated in Kilmainham is due to Lord Granard, Commander-in-Chief to the King's forces in Ireland, who, about 1675, sug-

Photo by Killick, Bray

PLATE 13.—ROYAL HOSPITAL, KILMAINHAM, NORTH FRONT

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gested the need of the institution to the Lord Lieutenant, Lord Essex. Supported by the Duke of Ormonde, they propounded their scheme to Charles II. on October 27, 1678, and the King's approval was at once granted; but the Exchequer was empty, and a Royal Mandate decreed that the expense be met by a levy of sixpence in the pound on all army-pay in Ireland.

A committee was appointed, the grounds of an old priory at Kilmainham were agreed upon as a desirable site, and on February 27, 1679, "orders were issued to His Majesty's Surveyor of Buildings (whom they thought most proper to advise with in that behalf) requiring that he do with all convenient speed view the lands of Kilmainham near Dublin." There is no record of this visit, nor are there any remains of the model which Wren is said to have made, but the care to re-insert the tracery of the Priory Chapel over the altar was an act of reverence very characteristic of one who ever shrank from an application to secular uses of stones expressly dedicated to God's service; no less characteristic is the manner in which this Gothic fragment is set among Renaissance surroundings without any modification of detail to veil the anomaly.

The Hospital is built round a quadrangular space, its brick walls, now rough-cast, devoid of ornament, save for the four doorways, which correspond to the paths intersecting the turf of the space within. Three sides of the building are almost identical in their severe simplicity, the only variety being in the carved wooden tympana of the doorways; but the northern side, that whose external elevation looks north across the Liffey and whose walls enclose the great dining-hall and the chapel, is an excep-

tion. The middle portion of this river-front projects enough to free the crowning tower from the roof on either side, is surmounted by a stone pediment with a wooden cornice of remarkable beauty, immediately behind which rises the above-mentioned tower, and is adorned by an order of Corinthian pilasters in ashlar. The door is square-headed, but its jambs are panelled pilasters, and the tympanum of the arch which combines them is adorned with a warrior's head supporting festoons, which feature is framed in its turn by a superimposed segmental arch borne by Corinthian pilasters, above which a square stone panel exhibits a coat of arms. The round-headed windows on either side the doorway, and those east of it which light the chapel, have been Gothicised, like the corresponding ones which look on to the quadrangle, while those to the west retain the original panes. At what period this change was made I have been unable to discover, but probably in the early nineteenth century, a period which is equally guilty of the rough-casting of the brick walls and their colouring to that monotonous dinginess which detracts so sorely from the attractiveness of the building and accords so little with the temper of its architect.[1]

The tower, built in 1701, which occupies the position on the ridge of the roof behind the pediment in which Wren was accustomed to place no more than a lantern—it being his invariable rule that towers and steeples start from the ground—is in itself so ungraceful as to suggest two theories: either that it is not Wren's at all, or that it exemplifies the

1 Malton's view of the Royal Hospital, engraved 1794, shows the brickwork bare.

Photo by Killick, Bray

PLATE 14.—ROYAL HOSPITAL, KILMAINHAM, CLOISTER

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danger of his inveterate habit of making a plan only to modify it as the building proceeded—a method which answered admirably when he could himself superintend the work, but was fraught with grave risk when the superintendence passed into less skilful hands. The plain round-headed windows (whose glazing has already been discussed) which occupy this north wall on either side the projecting portion should be compared with the similar series which Vanbrugh inserted many years after at Greenwich. Wren was obliged to build economically, but he understood how to give this plain fenestration a dignity of depth by an external splay of unusual proportion and the addition of a keystone to the inner moulding. Vanbrugh, with more money at his command, ran a narrow concave moulding round his windows, which only attracts the eye to their monotony and the shadelessness of their shallow setting.

The design of the cloister which runs round three sides of the inner court of Kilmainham, and is continued round the fourth until interrupted by the projection of the great hall, almost exactly reproduces the features of the arcade built by Wren some ten years earlier on either side of the chapel of Emmanuel, Cambridge, from which it differs only in that here there are keystones to the arches, keystones of modillion form. This cloister, like those of Chelsea and Morden Colleges, was doubtless intended to serve the double purpose of a covered way from one portion of the hospital to the other and of a sheltered place of recreation for the more infirm inmates.

Careful centralisation of ornament is well exemplified in the external elevations towards the south-west and east.

There the frames of the windows to extreme right and left are of plain flat ashlar, undiversified by any moulding, the outline interrupted only by a slight break above and narrow sills below; the wall containing the five centre windows projects slightly, the two windows right and left have delicately moulded frames, while that above the doorway is surmounted by a broken pediment, its raking cornice ending in scrolls, and its ends supported by modillion-shaped consoles. The lower part of this window is, moreover, clamped by the broken segmental arch which crowns the doorway. This method of binding the basement and first storey together occurs constantly in Serlio, and is a departure from the horizontal principle which gives so English a character to most of Wren's work.

In the great hall and chapel there is little to observe. The carving in the latter is indeed attributed to Gibbons, and, as it has been pointed out, it is to Wren's reverence that the anomalous Gothic tracery is due, and probably, to his suggestion, the general design of the woodwork; but the far-famed ceiling was put in by Cipriani some fifty years later, while it is likely that Wren chose the artificer of the iron gates presented by Queen Anne.

Since none of his biographers mentions his work in Ireland (it is not even included in the MS. list of his works drawn up by his son during his lifetime), that work cannot have been deemed very important, nor have occasioned repeated visits to Dublin. The foundation stone was laid by the Duke of Ormonde on April 29, 1680, but it is almost certain that the architect was not present at the ceremony.

Besides unremitting architectural activity, (the churches

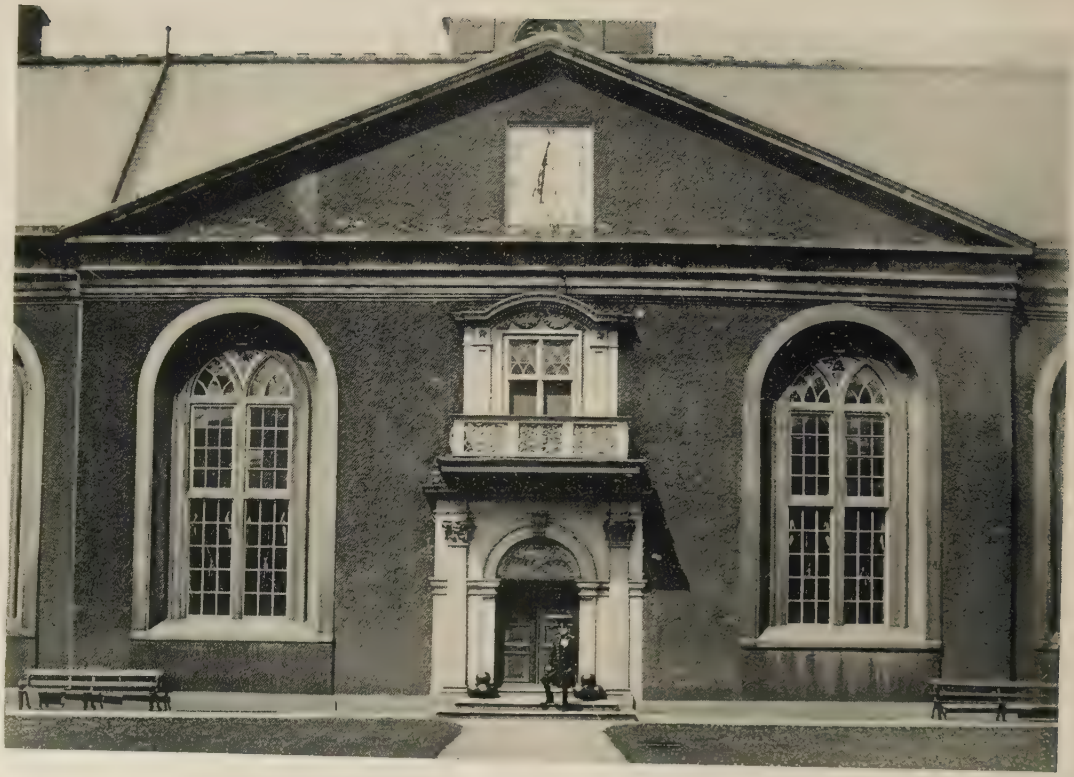

Photo by Killick, Bray

PLATE 15.—ROYAL HOSPITAL, KILMAINHAM, ENTRANCE TO GREAT HALL

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of St. Clement Danes and of St. Bride, Fleet Street, were begun at the time), there is record, during the spring of 1680, of Wren's assiduous attendance at the Wednesday afternoon meetings of the Royal Society—meetings at which every conceivable branch of science met with that impartial attention which characterised the colossal curiosity of the seventeenth century and accumulated data for the colder eighteenth to classify.

On April 15, which fell in Easter week that year, there was a very thin attendance. Wren, as vice-president, was in the chair, and Hooke read a letter which he had just received from Leibnitz at Hanover, giving an account of his "prince's design of making a survey of his country . . . answering some propositions made to him by Mr. Hooke . . . hinting an invention of his . . . useful for the improving reason etc."

Leibnitz had also addressed a letter to Dr. Grew[1] desiring to be informed what the Royal Society was doing. This too was read aloud to the company.

On May 27, Sir Christopher Wren and Henshaw, the vice-president, were desired to use their interest with the keeper that the bodies of such exotic animals as should chance to die in St. James's Park be handed over to the Royal Society for anatomical examination.

On June 23 "Sir Christopher Wren described a pheasant of Surinam," and, on June 24, "affirmed that extreme freezing will sweeten salt water."

Mr. Hooke, in July, read a letter from Paris containing, among other information, the news of the famous French traveller Chardin's return from India, "with a book in

[1] Nehemiah Grew (1641–1712), secretary to the Royal Society, 1677–9.

the Malabar language written on the bark of trees and on palm-leaves." Chardin came over to England shortly after, and, on August 30, John Evelyn, "desired by the Royal Society to salute him in their name," went to visit him, accompanied by Sir John Hoskyns[1] and Sir Christopher Wren.

"We," writes Evelyn, "found him at his lodgings in his Eastern habit a very handsome person, extremely affable, a modest well-bred man, not inclin'd to talk wonders . . . After the usual civilities we ask'd some account of the extraordinary things he must have seene in travelling over land to those places where few if any Northern Europeans us'd to go, as the Black and Caspian Sea, Mingrelia, Bagdat, Nineveh, Persepolis, etc. . . . He was sorry he could not gratify the curiosity of the Society at present, his things not being yet out of the ship, but would wait on them with them on his return from Paris, whither he was going the next day, but with intention to return suddenly, and stay longer here, the persecution in France not suffering Protestants to be quiet. He told us that Nineveh was a vast citty, now all buried in her ruines, the inhabitants building in the subterranean vaults which were as appear'd the first stories of the old Cittie . . . that the women of Georgia and Mingrelia were universaly and without any compare the most beautiful creatures for shape, features and figure in the world . . . that there had within these hundred years been Amazons among them, a race of valiant women given to warr . . . that Persia was extremely fertile . . .

[1] Sir John Hoskyns (1634–1705), second baronet, President of Royal Society, 1682–3.

he spoke of the many greate errors of our late geographers, as we suggested matter for discourse. We then took our leaves, failing of seeing his papers, but it was told us by others that indeed he durst not open or show them till he had first shown them to the French King."

On November 30 of this same year, 1680, the Royal Society elected Robert Boyle President, but he declined the post, and Wren was elected in his room and sworn in on January 12, 1681, upon which occasion he "discoursed upon earthquakes."

Among the more practical questions discussed at the Royal Society meetings for the last ten years had been the disposal of that Chelsea property which Charles II. had granted to the members when made homeless by the Great Fire. Since Hooke and Wren had both prepared plans for a house upon the plot of ground near the Strand made over to the Society by Howard,[1] it is obvious that the members had never seriously contemplated an establishment in the then remote village of Chelsea. At the time when a suitable site was being sought for the Observatory, it had seemed as though a way had been found out of the difficulty, but Wren's selection of Greenwich had frustrated this hope of settlement, and although various offers of purchase had been made, the mere commercial disposal of land graciously bestowed by the King's most excellent Majesty was felt to be a serious dilemma.

So it was that fourteen years had passed and still the Chelsea fields were empty of all save the fragment of

[1] Henry Howard (1628–1684), ninth Duke of Norfolk, a friend of John Evelyn's. He presented a library to the Royal Society.

building which had been intended, under the auspices of James I., to develop into a College of Polemical Protestantism. Laud's contemptuous nickname of "Controversy College" and the flagging of enthusiasm which besets the pursuit of ideals merely negative had blighted the scheme, and Charles II.'s action in devoting its land to scientific purposes seemed equally doomed to failure.

But, in 1681, came a solution of the difficulty from an unexpected quarter—a solution which appealed to the King's love of lavish expenditure without making corresponding demands on his purse, and allowed the Society to appear to act from motives of loyalty while actually ridding themselves of the King's gift.

Among the many notable men whose friendship Sir Christopher Wren shared with John Evelyn at this period, few can have been more agreeable to him than Sir Stephen Fox, who, remarkable alike for "beauty of person and towardliness of disposition," had passed from the choir-school of Salisbury to the court of the exiled Charles II. without sacrifice of integrity. Appointed at the Restoration to the lucrative post of Paymaster-General, he had in twenty years accumulated a fortune of some £200,000 "honestly got and unenvied which is almost a miracle," writes Evelyn, and accounts for it by adding that Fox continued "as humble and ready to do a courtesie as ever he was." It was possibly Wren's account of the scheme just set on foot at Kilmainham that attracted Fox's attention to the urgent need of a similar establishment in England, a need of which, as Paymaster to the Army, he must have been peculiarly able to judge.

On September 14, 1681, Evelyn dined with Sir Stephen, who proposed to him the purchasing of Chelsea College, "which His Majesty had sometime since given to our Society and would now purchase it again to build an hospital or infirmary for soldiers there," in which he desired Evelyn's "assistance as one of the Council of the Royal Society."

It was evidently to Wren's ready initiative that the Society attributed the speedy conclusion of the negotiations, for, on January 11, 1682, the Council voted thanks to the President for having disposed of a property which "had been a source of continual annoyance and trouble to them."[1]

A fortnight later (January 27) Evelyn was once again Fox's guest at dinner, and was acquainted by him "with His Majesty's resolution of proceeding in the erection of a Royal Hospital for emerited soldiers on that spot of ground which the Royal Society had sold to his Majesty for £1300." The King, moreover, had signified his willingness to settle £5000 a year on the institution, and build to the value of £20,000.[2] "Sir Stephen," adds Evelyn, in a mood as near to satire as he ever came, "was, I perceived, to be a grand Benefactor."

Every detail of the scheme seems to have been discussed by the two friends over the fire of Sir Stephen's study that evening, and Evelyn, at all times over serious, even insisted that the plans must embrace a library, and "mentioned several bookes since some soldiers might possibly be studious."

1 Quoted in Birch's *History of Royal Society*, vol. i. p. 229.

2 The total cost of the building was estimated at £150,000.

Three weeks later, on February 16, 1682, Charles II. laid the foundation-stone of the Hospital, to which Wren was not, however, formally appointed architect until 1683.

Still he seems to have made plans as a matter of course, for, on May 25, 1682, he and Sir Stephen invited Evelyn to accompany them to Lambeth, in order to gain the Archbishop's approbation of the plot and design of the college to be built at Chelsea. "It was," adds Evelyn, "a quadrangle of 200 feet square, after the dimensions of the larger quadrangle at Christ Church, Oxford. . . . This was agreed on."

This account of the origin of Chelsea Hospital, making it the practical outcome of a virtuous man's benevolence, had in it so little of romance that a legend attributing the first idea of its foundation to the King's mistress, Eleanor Gwynne, found such popular acceptance that it cannot be ignored, nor indeed is it unlikely that some careless, kind impulse of his favourite's may have prepared the King's mind for approving Sir Stephen Fox's generosity. The story goes that the miserable condition of certain soldiers of the disbanded garrison of Tangier came to the knowledge of the King, and that, in the presence of Madam Eleanor Gwynne, an hospital was suggested for their accommodation. The King hastily offered the spot on which one-eighth of King James's College stood empty.[1] Hastily recollecting himself, he exclaimed: "Odso, 'tis true I have already given that land to Nell here!" Upon

[1] This part of the story seems irreconcilable with the Royal Society's long official tenure of the property.

Photo by Cyril Ellis

PLATE 17.—SOUTH FRONT, CHELSEA HOSPITAL

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which the woman, whose kindness of heart had won her the love of the people, asserted her willingness to waive her claim. "Have you so, Charles? then I will return it to you again for this purpose."

The fact that the Archbishop's approbation had been granted to his first plan of a quadrangle did not deter Wren from altering it to one preferable, considering the position of the building looking south across gardens towards the river. A quadrangle would have left three façades comparatively sunless, whereas the Hospital—as it stands, a long building with wings—has in its southern side a very sun-trap, a purpose to which Wren's plan of a projecting piazza with colonnades specially lends itself. The middle point is a lantern-crowned octagon, on the eastern side of which lies the chapel, the corresponding space west being the great dining-hall. Chapel and hall are alike in length 108 feet, in width 37 feet 9 inches; but, while the chapel has a finely decorated ceiling, the roof of the hall is flat save for a cove above the cornice.

If, as has been suggested, Charles II., in promoting the building of Kilmainham and Chelsea, had some thought of rivalling Louis XIV.'s Invalides, of whose splendour, since the building had not been begun until long after his return to England, he can only have known by hearsay, the contrast between the French and English realisations of the same philanthropic idea is but the more interesting. The main difference between the private houses of the rival nations will be found to have consisted in this: that the French architects built town-houses in the country, and the English, country-houses in the towns. Bruant thought best to honour the men who had served their country by

building them a residence of palatial proportion. Wren thought to house them more suitably in the homely, almost rural, simplicity which, together with dignity, characterises Chelsea. The Invalides, with its stern northern aspect, its pompous pavilions and formal arcades, appealed to the French passion for display just as the brick walls and stone coigns of Chelsea addressed themselves to the English clinging to comfort and homeliness.

Nor is the panelled external wall of the sunny piazza the only evidence of Wren's thought for the infirm inmates, for the well-lit wooden staircases, with broad handrails and low wide treads, that lead to the upper stories, tell the same tale of tenderness.

Although it is a statue of Charles II. as founder which stands facing the river opposite the centre of the south front, it is the names of William and Mary that are written upon the cornice of the colonnade, for the Hospital, begun in 1682, took ten years to complete.

Wren's plan of connecting Chelsea and Kensington by a great avenue was, like so many of his dearest schemes, never realised, and is only commemorated by the pompous title of Royal Avenue, which inappropriately distinguishes two rows of small houses on either side the strip of neglected tree-planted land which runs from a point immediately opposite the north front of Chelsea Hospital to the King's Road.

Mr. Basil Champneys in his *Life of Coventry Patmore* tells how Carlyle said to him one day of Chelsea Hospital: "I had passed it almost daily for many years without thinking much about it, and one day I began to reflect that it had always been a pleasure to me to see it, and I looked at it

Photo by Cyril Hollis

PLATE 18.—ALTAR-PIECE, CHELSEA HOSPITAL CHAPEL

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more attentively and saw that it was quiet and dignified and the work of a *gentleman*."

It was not until eighteen years after his restoration that Charles II. commissioned his Surveyor to prepare plans for a monument to his martyred father King Charles I. Few tasks could have been more congenial, and, of all Christopher Wren's professional disappointments, his expressed regret for this one alone has come down to us. At first all went well. Parliament voted the sum of £70,000 for a solemn funeral of his late Majesty King Charles I., and towards the erection of a monument for the said prince of glorious memory. It was, moreover, decreed that the requisite sum should be raised by a two months' taxation.

The next day, which was the very anniversary of the martyrdom, Wren's old friend, Dr. Sprat, preaching before the Commons in St. Margaret's, Westminster, congratulated them on the throwing off by yesterday's vote a reproach of long standing, and declared that "for the future an Englishman abroad will be able to mention the name of King Charles I. without blushing," proceeding to eulogise that unhappy monarch as in "all things most illustrious, in all things to be commended, in all things to be imitated, in some things scarce imitable and only to be admired."

Not only did Wren furnish a carefully executed set of drawings for the mausoleum, with alternative designs for the statue which was to adorn it, but he submitted a detailed estimate of cost. Drawings and estimate are all that ever came of Charles II.'s scheme, and although the drawings themselves are carefully mounted, the superscription of the bundle that once contained them is itself pre-

served at All Souls'. It is in Wren's delicately flourished hand, and is inscribed:

Mausoleum Divi Caroli Regii Martyris
Excogitatum, Anno Salutis 1678
De Mandato Serenissimi Regis Caroli Secundi
Consentaneo eum votivis Inferioris Domûs
Parliamentis Suffragiis
ut (eheu conditionem temporum !)
nondum exstructum.

Nor was this Wren's only disappointment at this period. We read in *A Journey through England* (1722), "King Charles II. taking a Liking to the Situation of Winchester, by reason of the deliciousness of the Country for all manner of Country Sports, set Sir Christopher Wren, that great Architect (who had the Honour of making the Plan of St. Paul's Church in London, laying the first Stone and living to see it finished) to make a Plan for a Royal Palace where the old Castle stood; and King Charles was so fond of it and forwarded it with so much Diligence that the whole Core of the Palace was roof'd and near finished when that Prince died. It will be the finest Palace in England when finished and inferior to few abroad. It fronts the City to the East by a noble Area between two Wings, the Marble Pillars sent by the Duke of Tuscany for supporting the Portico of the great Stair-case, lie half-buried in the ground. The stair-case carries up to the great Guard-hall from whence you enter into sixteen spacious Rooms in each Wing, nine of which make a Suite to the End of each Wing. There are also two Entries under the Middle of each Wing to the South and North, above which are to be

two Cupolas ; and the Front to the West extends 326 feet, in the Middle of which is another gate, with a Cupola to be also over it. Under the great Apartment, on each side from the ground, is a Chapel, on the Left for the King and another on the Right for the Queen ; and behind the Chapel are two Courts, finely piazza'd to give Light to the inward Rooms. There was to be a Terrass round it as at Windsor and the ground laid out for a Garden, very spacious with a Park marked out of eight Miles Circumference, and that Park to open into a Forest of twenty Miles Circumference, without either Hedge or Ditch. The King designed also a Street from the Area to the East, in a direct Line by an Easy Descent, to the great Door of the Cathedral."

There is, among the manuscripts at Welbeck, a letter in the handwriting of the second Earl of Oxford, apparently addressed to his wife, which gives a graphic account of the ruin rapidly nearing completion of Wren's magnificent though unfinished work. Dated from Winchester (about October 24, 1738), it runs :

" From the Church we walked up the town and went to take a view of the King's house upon the hill. It stands very high in a very fine country and overlooks all Winchester and Saint Cross. The house was prepared for a hunting seat for the King, being in a free sporting country and not far from the famous New Forest. The plan or design was made by Sir Christopher Wren, and I believe is better than ever he executed because in this he was left to himself by the King ; it was just covered in before the King died. There were five marble pillars with their

capitals all wrought and put up in cases which lay there till the late King's time, where the late Duke of Bolton begged them of the King, and they were granted to him and he carried away above three hundred waggon loads of marble to his house at Hackwood, and there they remain still boxed up, never put up or even seen by mortal eye. The front of the house is to the east and the middle part of the house fronts directly upon the west end of the Cathedral : the project was to have a street of two hundred feet in breadth, and to have been noblemen's and gentlemen's houses of each side ; this would have been fine. The front in the middle was composed of four Corinthian pillars and two pilasters, the middle part without the two wings was two hundred feet, the whole front with the wings was three hundred and thirty ; the wings were joined to the body of the house by a fine colonnade. There was designed three cupolas, one upon each wing, and that in the middle the third to be so high that from thence you might see the men of war riding at Spithead.

"This was to please the King, who loveth the fleet of England. . . . There was to be two chapels, one for the King and one for the Queen; these were to go up two stories.

"The middle storey the rooms were to be fourteen feet high, the lower storey and the upper storey were to be fourteen feet. Her M. Queen Anne and Prince George went over the house . . . but the Queen liked Windsor much better. . . ."

What fragments remained were utilised for barracks in the nineteenth century, and no trace of Wren's building is now discernible save in the four pillars and flanking pilasters of a portico.

The Chapel of Trinity College, Oxford, is, as we have seen, not unanimously attributed to Wren's designing, but, since among the drawings at All Souls, there is a side elevation closely resembling it, and since there is written evidence that Dr. Bathurst consulted him about its building, as he had about the quadrangle ten years before, it is difficult to see any reason against the current theory except a phrase in his reply to Dr. Bathurst's letter on the subject.

Dr. Bathurst writes:

"*October*, 1692.

"WORTHY SIR,—

"When I sent Mr. Phips to wait on you with a scheme of our new building, he told me how kindly you was pleased to express your remembrance of me, and that you would send me your thoughts concerning our design; and particularly of the pinnacles, which as they were superadded to our first draught, so I must confess, I would be well content, to have omitted with your approbation. The season for our falling to work again will now speedily come on; which makes me the more hasten to entreat from you the trouble of two or three lines in relation to the promise whereby you will further oblige,

"Sir, your old friend and
"ever faithful servant,
"B. BATHURST."

Wren's reply is as follows:

"SCOTLAND YARD, *March* 2, 1693.

"SIR,—

"I am extremely glad to hear of your good health

and what is more that you are vigorous and active and employed in building. I considered the design you sent me of your chapel which in the main is very well and I believe your work is too far advanced to admit of any advice; however I have sent my thoughts which will be of use to the mason to form his mouldings.

"He will find two sorts of cornice; he may use either. I did not well comprehend how the tower would have good bearing upon that side where the stairs rise. I have ventured upon a change of the stair, to leave the wall next the porch of sufficient scantling to bear that part which rises above the roofs adjoining. There is no necessity for pinnacles; and those expressed in the printed design are much too slender. I have given another way to the rail and baluster which will admit of a vase that will stand properly upon the pilaster.

"Sir, I wish you success and health and long life with all the affection that is due from your obliged,

"Faithful friend,

"and humble servant,

"Christopher Wren."

The phrase that might be interpreted as renouncing any claim on the erection of Trinity Chapel is that in which he speaks of the work as already too far advanced to admit of advice. But may it not be that the design followed in the building was of Wren's drawing, and that he regrets that they should have built so fast as to make it impossible for him to modify as his custom was?

Externally and internally the Chapel is full of devices characteristic of Wren's work. The manner in which

Photo by Valentine

PLATE 19.—INTERIOR OF TRINITY COLLEGE CHAPEL, OXFORD

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the tall bases of the pilasters and the breaks in the crowning balustrade with vases above them continue the lines of the pilasters with but the depth of the entablature for interruption, the break which allows the eye to follow the line of the tower from the ground, the massive doorway and solid tympanum of the window above—these occur again and again in his work; while within, the screen, the reredos, the housing of the mediæval founder's tomb in a Renaissance tribune beside the altar, and the disposal of ornament above the bold panelling of the chestnut wainscot and on the ceiling is too masterly to credit to any amateur.

CHAPTER XIII

DOMESTIC ARCHITECTURE AND MINOR WORK IN BRICK

Wren's type of domestic architecture, a type from whose external simplicity he never departed even when designing royal palaces, has hitherto enjoyed immunity from vulgarisation; this is no doubt due to the fact that a dignity which dispenses with decoration does not easily lend itself to the demands of a commercialism which, fastening greedily upon French *châteaux*, has studded Europe with travesties of Vaux and Maisons—travesties which do not, alas! merely offend by their pretension, but sensibly mar our enjoyment of the originals. The French *château* is essentially a town house in rural surroundings, whereas Wren's characteristically English tendency (a tendency in some degree perceptible in Inigo Jones, as a comparison between Tredegar, Newport, and the prints of Bedford House, Bloomsbury (now destroyed) exemplifies) was rather to build town-houses after country models: long and low, their street doors opening into great halls and the house complete in itself, girt about with garden. The St. Paul's Deanery is an admirable example of this, for it would stand quite appropriately among lawns and woods. In houses of this type—be they of stone, like Belton, or of

Photo by Cyril Ellis

PLATE 20.—DOOR OF ST. PAUL'S DEANERY

brick, like the Deanery and the Bishop's Hostel at Cambridge—roof, chimneys, walls are left plain, save for stone quoins and courses in low relief under the windows, while ornament is often so severely centralised as to be confined to the porch, and, even in more elaborate buildings, rarely extends beyond a sculptured pediment above the cornice and a turret of timber and lead on the ridge of the roof.

It is obvious that a town house, hemmed in by its fellows, must depend much upon ornament for distinction to be conspicuous, and, in agreement therefore with the town models of their preference, the builders of French *châteaux*, not content as were their English rivals with the dignity afforded by site and terraces, decked the walls with profuse ornament and raised them to a height altogether unnecessary for buildings standing alone. Life as led there could have had nothing of that close intimacy with the life of the fields which to the Englishman is the joy of his country home. It is as though the Frenchman, afret for Paris, had insisted that his house should remind him as little as possible of the surrounding solitudes.

The same tendency towards upward expansion which, in Gothic, produced the giddy vaults of Amiens and Beauvais found later expression in the pyramidal steeps which roof the *châteaux* of the French Renaissance. The side pavilions, which have their counterpart in the simple projecting wings of English houses, are in France no less sharply differentiated from the façade above than below. The slope of tile or slate which, of uniform height, crowns the simple wooden cornice of the typical English house is in striking contrast to the variety of the French attic story,

named indeed after the elder Mansard, but actually occurring in the work of De Lorme, some hundred years earlier, and popular to this day. Rising to a height almost overpowering to the substructure, the French roof offers amazing variety of form: one portion is precipitous, another bulbous, but each complete in itself and sharply divided, so that the resulting sky line stands in relation to the English one as mountain peaks to the monotony of the South Downs.

But if Wren's houses cannot rival the French *châteaux* in external splendour, their interiors are, in a way utterly different, no less sumptuous. Here again it is necessary to bear in mind the contrasting ideals: the French house is built for summer sojourn (of winter discomfort even at Versailles there is ample record); Parisians masked the miseries of country life by masquerading in pastoral attire, a motley which tended to maintain that mood of idyllic idleness which sunshine induces when tempered by trees and the trickle of fountains. The Englishman's country pursuits of hunting and shooting are, on the other hand, most absorbing in winter, and his house, with its thick walls and double doors, dark-panelled rooms and wide hearths, suggests a comfort and shelter incomparably more agreeable after a cold day than the white and gold and looking-glass upon which the French scheme of decoration is built up.

Christopher Wren carried his lack of self-assertiveness to the point of constantly leaving no record of concern with his work, so that, unless we except Arbury, of which only the stables remain as he left them, it is impossible to substantiate by document any attribution to him of the

many country houses with which tradition associates his name. Among those most obviously his, Belton, near Grantham, is the finest and, save for two rooms decorated by Adam, stands now exactly as it did when completed in 1689.

Built of that yellow Ancaster stone to which time lends a glow of varied intensity, the house is of letter H ground-plan; the projecting wings affording a sun-trap on the south, while those on the opposite side protect against the east wind which so disagreeably intensifies the chill of a northern aspect. The low slate roof, of which the flat upper portion is edged by a balustrade, the sash-windows, the pediment which surmounts the recessed portion of the façade and which encloses a cartouche, its outline softened by wreaths, the octagonal turret which crowns the whole—combine to give an impression of external austerity which further enhances by contrast the sumptuousness of the interior. As one approaches the house by the elm avenue a mile in length which crosses the park, Wren's instinct for proportion and spacing by which a building can achieve majesty without trappings is what chiefly strikes one.

The interior of Belton exemplifies all the finest characteristics of its period: deeply moulded wainscot and recessed doorways like those of Hampton Court, cornices of bold projection, ceilings divided into panels by garlands moulded in plaster in high relief, and rooms which follow the plan—a favourite one with Wren—in which the hearth is set across the corner; this gives a touch of haphazard upon which the great architect loved to stamp intention by designing the decoration

of wall and ceilings in such a manner that they should converge towards what would otherwise appear an accidental irregularity of ground-plan.

Almost all Wren's other work of domestic building is in brick; it will therefore be best considered here together with certain lesser public buildings for which he used the same homely material.

Such critics as delight in nomenclature and classification have qualified Wren's work in brick as "Batavian," proceeding further to trace his partiality for its use to fashions brought oversea by the House of Orange. But, however conspicuous the traces of William III.'s economy may be in such buildings as Wren erected by his command, the fact that there was a long tradition of brick building in England before Wren's time, and that Wren himself constantly made use of the material in the works of his Caroline period, justifies a denial of this debt to Dutch influence.

Among Wren's very earliest works, indeed, was the Storehouse in the Tower, which Pepys[1] mentions as having seen completed in 1664, and which happily survived the fire of 1841 in which its contemporary and far finer Armoury was burnt down. The Tower Storehouse, as its name implies, is a building of the merest utility, and the landing-stages which occupy the centre of its three storeys made any centralisation of ornament impossible.

[1] "*Nov.* 8th, 1664. To dinner all of us to the Lieutenants of the Tower: where a good dinner, but disturbed in the middle of it by the King's coming into the Tower: and so we broke up and to him, and went up and down the Store houses and magazines: which are, with the addition of the new great storehouse, a noble sight."

Photo by A. E. Aspinall

PLATE 21 —STORE-HOUSE, TOWER OF LONDON

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PLATE 22.—BISHOP'S HOSTEL, CAMBRIDGE

It is, however, a striking example of the dignity which proportion and perfect adaptation to purpose can bestow. It has projecting wings, the window openings are of gauged brick, while the long tiled roof and side gables are alike hipped, and the whole composition bound together by a coved wooden cornice.

The Bishop's Hostel[1] at Cambridge, built 1669-70, five years later than the Tower Store, is also of brick. Here too there are projecting wings, and the dignity of the recessed portion has been further enhanced by a hooded doorway flanked by pilasters in low relief; the alternative use of brick and stone in the façade and the slope of the tiled roof is entirely satisfactory, but, neither here nor in the Storehouse, had the architect opportunity for the display of fancy.

It was at one time the current opinion that Wren's work after the Fire included, in addition to the rebuilding of Cathedral and parish churches, all the City Companies' halls. But recent comparing of records and accounts has resulted in the discovery that Jarman was responsible for the planning and building of most of these. Wren did indeed superintend the re-erection of Guildhall, adding some features of his own design. These features, to

1 There is no documentary evidence that the Hostel is of Wren's designing, and the recorded description of the builder is Robert Minchin, of Bletchingdon, Oxfordshire, carpenter. Since, however, this same person had "assisted" Wren in his work at Trinity, Oxford, in 1665, it seems likely, in the face of the fact that the Hostel at Cambridge has all the characteristics of Wren's work, that Minchin here too contributed "assistance." Since he came from Bletchingdon, the home of Mr. Holder, Wren probably took the more interest in his advancement for his sister's sake.

judge from old engravings, were especially conspicuous in the upper part of the porch, in which the volute-shaped buttresses and segmental pediment of the superstructure contrasted oddly enough with the recessed Early English arch below. But all these anomalies were swept away and replaced by George Dance's Gothic in 1789.

The front of Mercers' Hall in Cheapside, too, was Wren's; it has been demolished, and the centre portion re-erected at Swanage as an entrance to the Town Hall. Of Pewterers' Hall, which was also Wren's, the great wainscotted dining-hall bearing his name and the date 1668 on its panels, and a little octagonal room with a cupola for ceiling, now a counting-house, form part of the premises of Messrs. Townend, hatters, of Lime Street; while the short list of City Halls still attributed to Wren closes with that of the Brewers' Company in Addle Street.

Here there is no inscription nor contemporary record, but the work has every characteristic we are accustomed to find in Wren's buildings.

The elevation of the courtyard is of brick with stone dressings: on the ground floor an arcade, the solid tympana, like those Wren built four or five years later at Trinity, Cambridge, deriving from a need for giving greater height to the first floor. Above the first floor is a series of oval windows set lengthways. Very charming is the turn of the stair which allows access to the first floor from the yard. The interior is one of the finest and best preserved works of the period: the windows are framed in panels and crowned with broken segmental arches and escutcheons, while the oval windows above fill the upper part of the

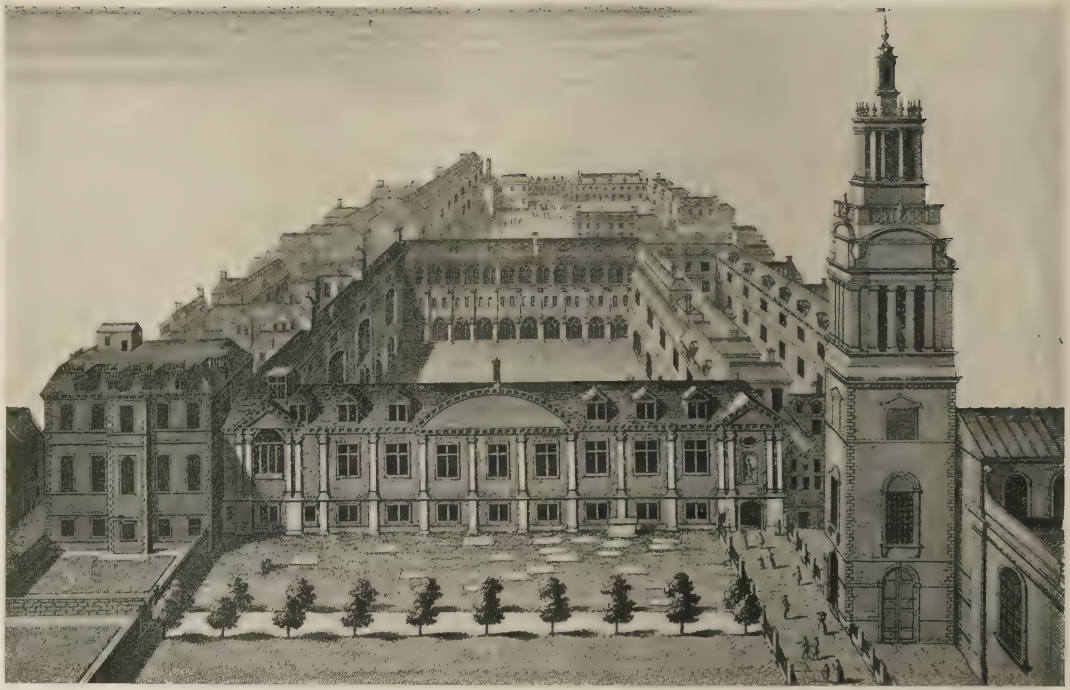

PLATE 23.—LATIN SCHOOL, CHRIST'S HOSPITAL
From an engraving in Maitland's "History of London," by Toms

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room with a pleasant subdued light. The carved festoons of the fireplace on the opposite wall are fine in themselves, and specially interesting as bearing a date, 1670, prior to that at which Wren first met Grinling Gibbons, to whose single chisel topographers have been prone to attribute all the carving in the City of London.

One of the most charming of Wren's sterner brick elevations, and one which has only been destroyed within living memory, was the long range which he built in 1672 for Christ's Hospital. It faced south towards Newgate Street, and was of red brick with tiled roof and wooden cornice, the length of its eleven bays relieved by a segmental pediment of plain brick over the three centre bays and the crowning with gables of those at either end. Some pilasters on tall bases, between which were the windows of the basement, divided the wall space, while the design was closed by the doubling of the pilasters which flanked the end bays. The gateway in the easternmost which formed the entrance to the school-yard, which is adorned with the statue of the royal founder in a niche, and above again by an oval window in rubbed brick, was carefully taken down and re-erected among the new school buildings at Horsham in 1894.

Wren's use of rubbed brick—brick, that is, of a kind which can be rubbed or filed into a wedge shape, like the stones of an arch, or to an external curve for the construction of pillars—is nowhere better exemplified than in the work which a fire in the Temple brought him about 1678. He built the cloister at the end of Hare Court, and probably approved at least the broken pediments with balls which surmount the doorways here and in Old Square, Lincoln's Inn.

But the brickwork most deserving of study is that of the doorways in King's Bench Walk, especially that of No. 5, a design of great perfection, the pilasters, moulding, and pediment of rubbed brick, and the Corinthian capitals of the former delicately wrought in stone.

The distinction which a great man can impress upon his lesser works is nowhere better exemplified than in the schoolroom which Wren built for Winchester College. In its perfect symmetry, its rich colour, its restrained ornament, the study of it should surely counteract the tendency of to-day towards over-decoration on one hand, on the other to clumsiness.

Recoiling from the spindle legs and blue china fragility of twenty years ago, some architects and designers of furniture affect a rudeness recalling the simplicity less of the cottage than of the cave. We are too civilised to abjure decoration other than self-consciously. There is a grace of ornament as surely as there is a comeliness of structure, and Wren's work at Winchester displays as sure a handling of the one as of the other. Nothing could exceed the simplicity of the ground-plan. It would be that of a box did the façade not break slightly with the pediment, which device allows of height being accentuated by the two lines of stone coigns on either side the hooded doorway. Ornament is severely concentrated, and only discernible on this side and on that in the stone festoons above the windows.

The brick church of St. Benet's, Paul's Wharf, recalls the Winchester School, but here the windows, no doubt for the sake of economy, are arched with rubbed brick in place of stone.

Photo by A. E. Aspinall

PLATE 24.—DOORWAY IN RUBBED BRICK, 5 KING'S BENCH WALK

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PLATE 25.—GREAT SCHOOLROOM, WINCHESTER COLLEGE
From a lithograph

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Photo by A. E. Aspinall

PLATE 26. ST. BENET'S, PAUL'S WHARF

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Photo by A. E. Aspinall

PLATE 27*a*.—MIDDLE TEMPLE GATEWAY, FLEET STREET

Photo by A. E. Aspinall

PLATE 27*b*.—A DOORWAY IN THE TEMPLE

It is no doubt owing to its situation in a crowded and narrow street that Wren's Middle Temple gateway is so little famous. It is none the less admirable as an example of unassuming dignity, and interesting, moreover, as one of the very few elevations which Wren designed to stand flush with other buildings in a street. This basement storey is of rusticated stone, its upper storey and pediment of brick divided into three bays and flanked by Ionic pilasters of Portland stone. Their bases are on a level with the window-sill of the middle window, while the side windows are cut down and provided with balconies supported on brackets. The fenestration is perfectly simple, with none of the exaggeration of scale which sometimes disfigured Wren's later work, and the pediment has a wheel window and a fine cornice. Stone quoins bind the whole together, while a plain stone course carried halfway between the windows of the first and second floor records that the gateway was rebuilt after a fire, at the expense of the Benchers in 1684.

At the time that Wren was building the Middle Temple gateway and the schoolroom at Winchester he was repairing the Cathedral spire at Chichester, and no doubt the two red brick houses attributed to him in the streets of that town are of this period. The one in West Street, with its cone-surmounted panelled gate-posts, its large windows, wooden cornice, tiled roof, and the recessed panels of its tall chimney-stacks, is even more rural than the Dodo House with its flight of steps leading straight from the pavement to the front door. There is a course of rubbed brick here too, below the first floor windows, a course of the kind very common about Lincoln's Inn and the Temple,

agreeing well with the urban type of porch here illustrated. Although there is no garden before the Dodo House, a certain privacy is assured by the dwarf wall surmouuted by a railing which is interposed between house and pavement, and the house takes its name from a curious pair of stone birds which replace urns or cones upon the gate-posts.

The Town Hall of Windsor, which Wren built in 1688, is a pleasant, compact little building, which an anecdote has made more famous than its merits deserve. To the first Parliament of William and Mary, Wren (who in the preceding Parliament had represented Plympton St. Maurice in Devonshire) was called as member for the borough of New Windsor, and no doubt the building of the Town Hall was a way of making himself popular with his new constituents. It was of one storey, the ground floor being an open arcade for the transaction of business with a trabeated ceiling. The Mayor and Corporation came to make a state inspection when the building was declared finished, and objected that the supports of the floor of the room above the open basement were insufficient. Wren explained the reason of his conviction of its security, but finally consented to add two columns besides those of his plan. These supplementary columns he made of set purpose so short that a space intervened between their capitals and the ceiling. Seen from below, however, all seemed reassuring, and the civic deputation expressed themselves satisfied. The columns stand as they did then, and the space has not lessened between them and the ceiling.

Legend associates Wren's name with Upper School at

Photo by A. E. Aspinall

PLATE 28*a*.—TOWN HALL, WINDSOR

Photo by A. E. Aspinall

PLATE 28*b*.—TOWN HALL, WINDSOR

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Photo by Cyril Ellis

PLATE 29.—MORDEN COLLEGE, BLACKHEATH

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Photo by A. W. Ryder, Rochester

PLATE 30.—GUILDHALL, ROCHESTER

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Eton, which was built in 1694, and its elevation on the school-yard certainly displays many features characteristic of his work, especially the double columns which are engaged in the piers of the cloister. There is no documentary evidence, but since he represented Windsor in Parliament at the time of the building, and was constantly employed at Windsor Castle, it seems likely that the College authorities at least consulted him.

The retreat for decayed merchants at Blackheath, known from the name of its founder as Morden College, and built in 1695, is among the finest and best preserved of Wren's works in brick.

The centre of the western elevation, that of the main entrance, is accentuated by a pediment of the length of five bays, and a break is here emphasised by stone quoins which recur on either side the projecting wings. There is also a break on either side the porch, to the space above which all ornament is restricted.

The inner quadrangle is surrounded by a piazza or cloister, its upper storey here supported on stone pillars of Roman Doric set on tall bases. At the angles and in the middle of each side pilasters take the place of pillars, and carried through the entablature are continued to the wooden cornice. Those in the middle of each side carry on two sides a segmental, on two an angular pediment.

The panelling of the chapel and vestibule is very fine, and beautiful the carving above the desolate altar.

CHAPTER XIV

ST. PAUL'S

To very many of us St. Paul's is so dear that we mistrust the reasonableness of our own admiration. Dimly we recollect kneeling there as children, solemnly conscious that it was a great occasion in our lives; we associate it with stirring times of national anxiety and triumph, while, combining as they do with its historical association, the appeal of the music, the cadences of the liturgy have dimmed our eyes when, as grown men and women, we have snatched leisure from business to attend evensong. At such times we have come away feeling unequal as we were as children to appreciate at once the literature, the harmony, the light and shade, poignant impressions of which have been crowded into the short space which we have spent under the gathering gloom of the dome. It has been an actual relief to come out upon that noise and vulgarity of Ludgate Hill which gave pause to tenderness and awe, and forbade further clutching at the elusive raiment of beauty.

More dispassionate critics must remember that, in judging St. Paul's, it is essential to lay aside certain prejudices begotten of Ruskin's teaching, a teaching which, for its ethical tone, met the wider acceptance, since Englishmen became less afraid of beauty when told of a

close connection with good conduct which they had never suspected. Ruskin's judgment, though often leading to right conclusions, started from the false premiss that, in Art, it is essential that things should be as they seem, whereas the opposite is more generally true, inasmuch as art affords escape from reality, taking reality in that narrow sense which binds it to matter and its properties. Ruskin promulgated this dogma of his so emphatically that, arguing *a priori*, he credited the Gothic artists of his preference with a conscientiousness which, save in the rarest instances, was never theirs—a painstaking adorning of such parts of their buildings as were out of sight.

To such criticism as this St. Paul's is an easy prey. The external curve of the dome bears no relation to that of the interior; let the spectator beware then of admiring it: it is an empty gaud; the Cathedral is outwardly of two storeys, inwardly of one; the insincerity is manifest! let us shudder as we pass! Such criticism takes no account of the fact that the steep ridge which supports the *flêche* of Amiens is totally different from the groined vaulting which it protects, and that spectators marvel at the soaring roof of a French church without any thought of its dependence for stability on the flying buttresses without.

Architecture concerns itself with the beautiful enclosing and roofing in of spaces, only so far as it achieves beauty is it architecture at all, but a building is not beautiful unless it appear stable to the eye, an instrument whose standard is proverbially rather emotional than scientific.

Wren was, as we have seen, one of the first geometricians of his day, yet it is not such geometrical knowledge as we

may boast which compels us to admiration as we mark the curious perfection of that great curve which he drew upon the sky of London or stand in the Cathedral of his building awed by the majesty of its spaces.

Among his extant drawings, there are none of design absolutely identical with St. Paul's as we see it. His first two designs rejected, that officially accepted is so unlovely [1] that we can only surmise that the architect always intended to avail himself of the royal permission to alter without giving much heed to the qualification that such alteration must not be essential. Among the drawings at All Souls, Oxford, is one agreeing indeed very closely with the Cathedral as ultimately completed, but the *campanili* which are close copies of Bramante's Tempietto, the trellis-like balustrade of the stone gallery, the lucarne windows which interrupt the sweep of the great dome itself—all these but serve to make manifest the desirability of the later alterations. That no one of the actual working drawings has come down to us may surely be attributed to the fact that, in those days of difficult reproduction, no more copies were taken than were absolutely necessary, and to the probability that these were thumbed and pricked away by the foreman of the works.

St. Paul's being usually approached from the west, it is from the right-hand pavement of Ludgate Hill that the great west-front is best considered. Apart from the *campanili*, its most striking features are the coupled columns and the two orders, or, to speak less technically, the storeys of its elevation. It has been seen how greatly Inigo Jones's incongruous portico had been

[1] "His nightmare conception."—BLOMFIELD.

Photo by Valentine

PLATE 31.—ST. PAULS' CATHEDRAL FROM THE WEST

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extolled by his contemporaries ; and of the majestic effect of one great order of columns Londoners are easily able to judge from the west fronts of St. Martin's in the Fields and St. George's, Bloomsbury. But Wren had an excellent practical reason for the two orders of his façade, in that the Portland quarries did not furnish blocks of sufficient bulk for the immense drums of stone of which alone the gigantic columns of a single order could be safely built. Well aware of the danger of vertical sections for columns subject to any great strain, Wren set himself to design what could safely be executed with the material at hand, renouncing any rivalry with Inigo Jones's ill-fated work. That he had originally intended a single-order portico for St. Paul's is obvious from the extant model of the "favourite design," in which the western elevation exhibits one great colonnade, while the side walls are (as already described) adorned with the single engaged order of pilasters, whose lesser proportions are awkwardly eked out by the exaggerated stylobate and heavy cornice. In happy contrast with this arrangement, the dimensions of the western columns supply the scale throughout the whole exterior of St. Paul's as we see it.

The coupling[1] of the columns has been much criticised by rigid dogmatists. Possibly some recollection of the chorus of praise which had greeted Perrault's colonnade at

1 Extant drawings and contemporary engravings from drawings which have not come down to us furnish abundant proof that, during the years of building, Wren constantly modified his original plans, and often made most careful drawings of alterations which he ultimately decided not to introduce. There is, for instance, an engraving by Gribelin, specially stated to be *ex autographo architecti*, and dated 1702, which exhibits a further accentuation of his coupled columns by the placing above them of statues in pairs.

the Louvre may have guided Wren's pencil, but his own defence was of a kind more likely to prevail with his scholarly contemporaries—an appeal, namely, to the twin columns of that Temple of Peace in the Roman Forum, of which Serlio's book furnished him with description and ground-plan. For us the most cogent argument in Wren's favour is the dignity and grace of the result and the facility derived from his use of double columns for accentuating the entrance door and so enhancing its dignity in a manner which is of the utmost importance for state functions. With equi-distant columns this would have proved impossible. The depth and relief afforded the columns of the façade by the recessing of the wall behind them should be noticed, and also Wren's avoidance of the superimposed pediments which disfigure the façade of Lemercier's Val-de-Grâce, which is, like St. Paul's, of two orders.

It is from here that the *campanili* are best studied, and especially noteworthy is the fact that, while they form an integral part of the façade, their lines start from the ground in that manner characteristic of the architect from which the insertion of side chapels compelled him for once to depart on the north and south sides of these very towers. The fenestration of the two lowest stages is differentiated in the approved Renaissance fashion by angle and curve, the round-headed window of the first stage being raised upon an altar-like stylobate, and the whole composition recessed in a niche with a coffered soffit or ceiling, while the square window above rather projects than recedes, is flanked by pillars and crowned with a pediment. The third stage is still square with round

Photo by Cyril Ellis

PLATE 32.—SOUTH DOOR, ST. PAULS' CATHEDRAL

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openings in each wall, on the south side for the clock and on the north for the bells. Above it is a heavy hood-moulding, square above the angles and curved over the round apertures, while upon the angles of the moulding are fantastic, volute-shaped ornaments terminating in vases. These are intended, like the still more curiously conceived finials of Bow Church steeple, to mask the transition from square to round in ground-plan, a transition here less sudden than at St. Mary-le-Bow, for the next stage is octagonal, the eight sides at the angles projecting a little under a break in the entablature. This stage is of clustered columns so arranged that the light passes between them at the angles while the wider intercolumniation in the middle of each of the eight sides reveals a window in the wall behind. The final stage above this again is of pierced arches in two tiers, the circumference gradually shrinking to a bell-shaped cupola capped by a cone.

The north and south sides of St. Paul's are identical, save that the inequality of the ground-level necessitated the approach to the south door being by twenty-four steps as opposed to twelve which suffice on the north. On the north side, however, the houses so encroach upon the churchyard that the side-elevation of the nave at least is best studied from the south or river side.

It is from about half-way between the west front and the south door, from the corner of Godliman Street, that the Cathedral looks most majestic, and yet it is from here that the external features most severely criticised are best observed. And first the two storeys of the wall, of which the lower is the wall of the aisle and contains its windows, while the upper is unbroken save by niches, and has been

described as a mere screen to conceal the buttresses that sustain the nave-vaulting. It is historical that Wren considered the slanting roof of a building a feature of little dignity. "No Roof," he writes in a fragmentary tract on architecture, which his grandson reprinted in *Parentalia*, "can have Dignity enough to appear above a Cornice, but the Circular," and his chronicled axiom: "No Roof almost but Spherick raised to be visible," has had much to do with the current opinion that these great upper walls serve no purpose save that of a screen. Of late, however, the opinion has gained ground among architects that this huge unbroken mass of stone is actually essential to the stability of the whole structure, and that the pressure of the dome's weight is skilfully distributed, so that it is not dependent only upon its obvious supports. This leads us to consider the dome, which is best seen from here, the dome, the beauty of whose curve has only been preserved to us because its builder consented to realise the outline of his dream in timber and lead, since, as a distinguished American critic[1] has said, "to make a dome on a large scale a conspicuous object from the spring to the crown is a thing that cannot be safely done in stone masonry." We have seen how the task set to Wren was expressly that of building "a dome conspicuous above the houses" which should, as far as possible, indemnify London for the loss of old St. Paul's and its spire.

Before further considering the dome of St. Paul's, we must digress for a moment and recall those three Roman cupolas which, though known to Wren but from drawings and engravings, are proved, upon the evidence of his own

[1] Charles H. Moore.

writings and by his grandson's recollections, to have been constantly in his mind: the Pantheon, Bramante's Tempietto, and St. Peter's. The peristyle of St. Paul's dome has been attributed to Serlio's careful analysis of Bramante's little masterpiece, but the scale of the building is too small for any structural juxtaposition with St. Paul's to be seriously considered. The other two cannot be thus passed over.

Any one who, after a few days in Rome, has looked down upon the city from the Pincian Hill and identified towers and domes, will recall how it was with a slight feeling of disappointment that he contrasted the ineffective outline of the Pantheon with the soaring dome beside the Vatican. The builders of the great ante-chamber to Agrippa's Baths were content to build on perfectly sound structural principles what is generally admitted to be internally the most beautiful of domes. They knew what it took the rest of the world some seventeen centuries to learn: that the roof of a dome, if it follow the outline of the internal vault, can never be architecturally effective, and accordingly, building a massive circular wall, they embedded the haunch or springing of their dome within it, so that the external masonry is curved but for about the third of the total height of the vault. It has stood for some two thousand years, while the dome of St. Peter's, constructed by Fontana after Michel Angelo's design, had crowned the High Altar of the great Cathedral for barely a century when disaster seemed imminent, and only by the addition of a series of five encircling chains, besides the two inserted at the time of building, was downfall averted.

It was in the time of Pope Innocent XI. that cracks first opened in the drum and dome of St. Peter's, and the

news of the council of experts hastily called together must have come to Christopher Wren at the very time when such warnings would sink deepest, when there was danger lest he should attempt to rival Michel Angelo, and so but prepare the ruin of his own work.

In considering the vaulting of spaces, it is necessary to bear in mind that two kinds of support are essential to its security : one vertical, supplied by pillars and piers ; the other lateral, met by buttresses of various forms. In the case of St. Paul's, the vertical support is derived from the eight piers of the crossing of which Stephen Wren writes as the "Legs of the Dome," while the resistance to lateral expansion, technically termed *thrust*, is supplied first, as we shall see, by the buttresses of the peristyle, and secondly by the bastion-like masonry which fills the angles of choir, nave, and transepts, bastions to which the weight of the screen wall above mentioned lends greater rigidity. It is the continuousness of this lateral pressure or thrust which is expressed in the Arab proverb, "The arch never sleeps."[1]

The drum of the dome rises, a plain wall of masonry, twenty feet from the roof, and then upon a massive stone course of slight projection comes the peristyle or circle of columns which has been traced to Serlio and which was more or less copied by Soufflot for the Paris Pantheon, and later still, in the middle of the last century, by the architect of St. Isaac's Cathedral, Petersburg. But there

1 "Altho'," writes Stephen Wren, "the Dome wants no Butment, yet, for greater Caution . . . a Chanel is cut in the Bandage of Portland Stone in which is laid a double Chain of Iron . . . and the whole Chanel filled up with Lead."

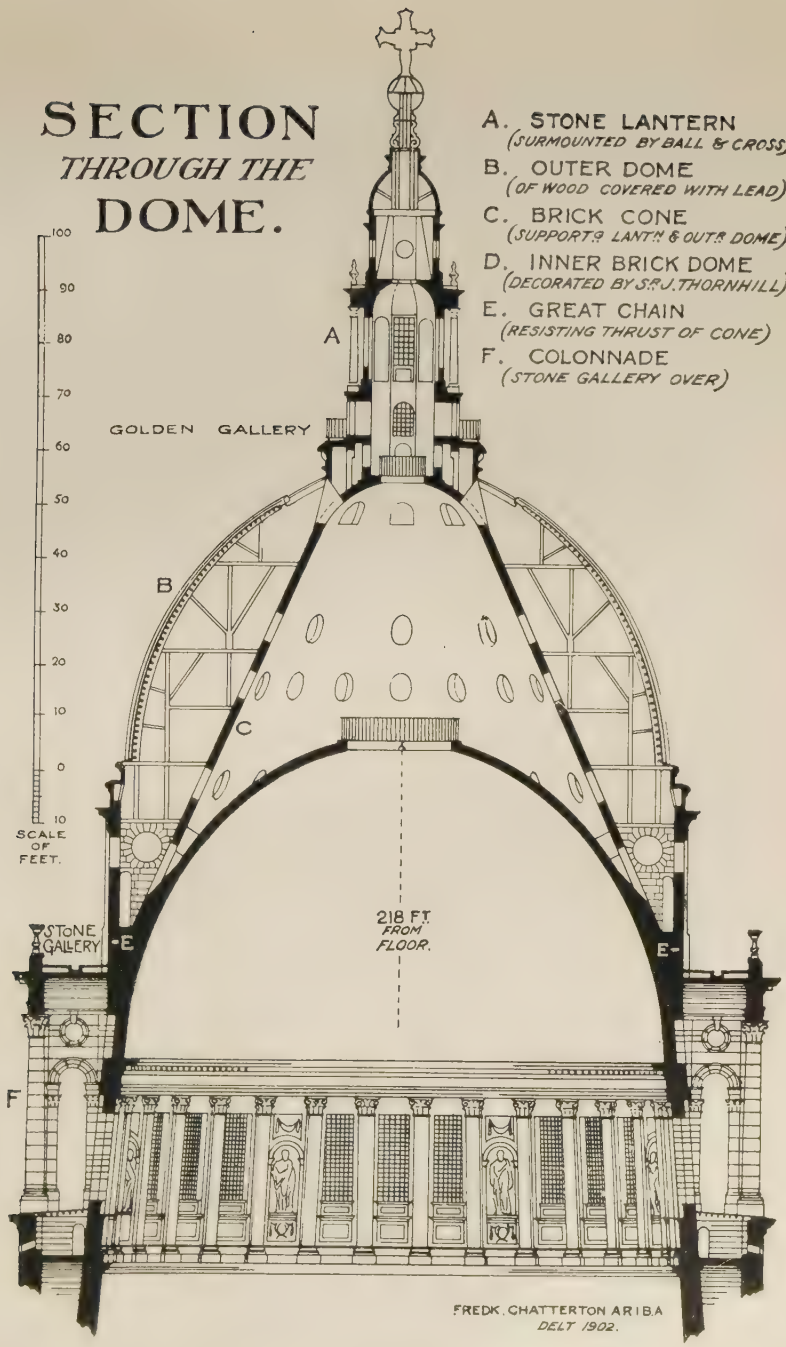

PLATE 33

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is a very important difference between the purpose of Wren's peristyle and that served by Soufflot's and those of other copyists.

That which encircles Wren's dome does not merely sustain the stone gallery. Each of Wren's composite columns veils a buttress, each of his built-up intercolumniations, a doubly powerful buttress to resist the specially severe thrust of the haunch or springing of the brick cone which, starting from behind the entablature of the peristyle, slants up, a section of the dome's curve, and sustains the weight of stone lantern, ball, and cross. This walling up of every fourth intercolumniation was an entirely original device of Wren's, and one the importance of which would seem to have escaped the notice of those, his followers, who in other respects have moulded their designs on his. It is a feature which gives great strength to his peristyle by preventing any transparency in side views, while the absorption of the buttresses gives added height to the structure.[1]

The slant of the brick cone starts, as we have said, from just below the level of the stone gallery, and, lower still, about half way down the pillars of the peristyle, a third dome of brick curves rapidly towards the middle and forms the vault or ceiling of the interior, the vault whose inner face is decorated with the faded paintings of Sir James Thornhill. This one, which rises about 218 feet from the floor, has a hole in the centre immediately below a corresponding aperture in the brick cone above.

1 "The Romans always concealed their Butments," he writes in *Report on Westminster*, and in Tract II. in *Parentalia:* "The Romans never used buttresses without, but rather 'within.'"

The stone lantern crowning the dome and supported by the inner cone of brick is among the most delicate of Wren's masterpieces. The four stages are octagonal, the longer straight sides facing the points of the compass, the oblique sides with re-entrant angles. The lowest stage, that behind the Golden Gallery, is ornamented but by simple niches and doorways; the second stage has a window in the middle of each straight side flanked by the architect's favourite coupled columns, sixteen in all. Poised upon the entablature here complete, flaming urns of stone take the place in this stage occupied by the columns of that below, urns which have been taken to symbolise the Fire, but which were equally popular with the French contemporary architects, who had no such devastation to commemorate. From above this stage an octagonal lantern of lead curves to the base of ball and cross.

While ready enough to admire the majestic exterior of St. Paul's, those critics who persist in comparing it with St. Peter's complain that, on first crossing the threshold,[1] they are conscious of a lack of expansion, a consciousness which passes off indeed, but of which the memory remains conspicuous. This can, however, only be the prevailing impression of those who, on entering, at once look eastward across the dome space to the High Altar. That, from this point of view, the almost equal length of nave and choir conveys a sense of contraction cannot be gainsaid, but the lover of space will find ample satisfaction if he but

[1] They are considered as entering by the great central doors; the side doors admit first to a narrow vestibule between the main portico and the *campanili*.

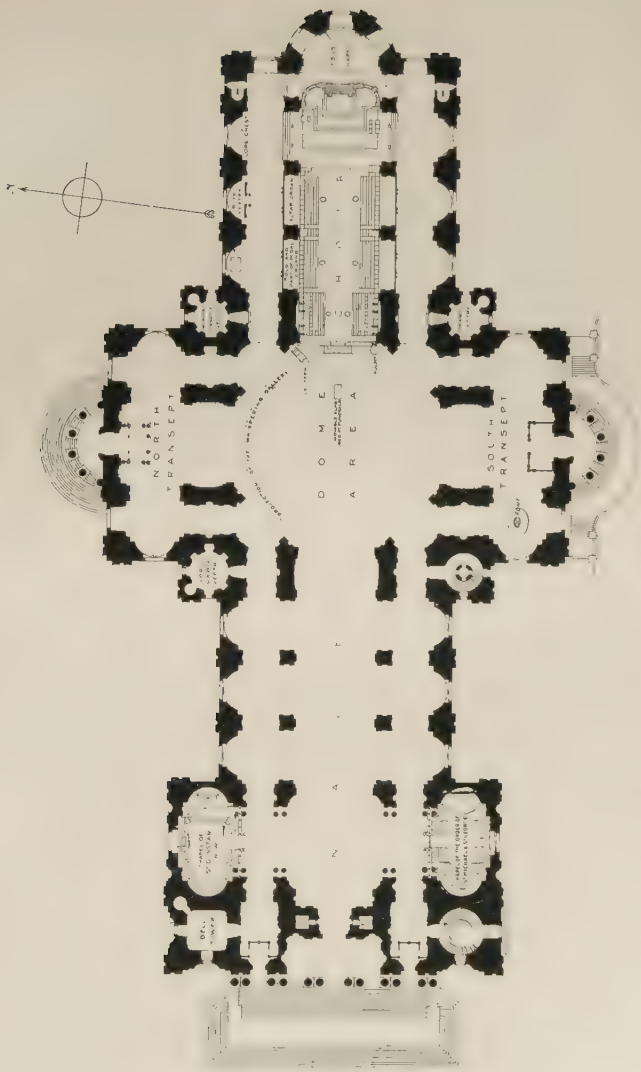

PLATE 34.—GROUND-PLAN OF ST. PAUL'S
By permission of Rev. L. Gilbertson

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PLATE 35.—VIEW ACROSS WEST END OF NAVE, ST. PAUL'S CATHEDRAL
By permission of Mr. Batsford, from Birch's "London Churches"

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look to his right hand and to his left, for as surely as the deep external projection of the side-chapels mars the side elevations of Wren's *campanili*, so surely does it immeasurably enhance the dignity of the western interior of his Cathedral.

Mindful, no doubt, of the great ante-chamber to the nave of Ely formed by the space below the western tower, and of the importance for state-ceremonial of a great space of assembly at the west, Wren gave the first bay of his nave more grandeur than its fellows, by drawing its ground plan square instead of oblong, by a slight setting back of its piers, and by placing to the east and west of these, and of the corresponding piers beyond the aisles, coupled columns. These last flank the entrances to the side-chapels, from one or other of which the beauty of this vestibule, which has of itself the proportions of an imposing church, can be best appreciated.

The obligation laid upon him to build [1] a Renaissance cathedral on a Gothic ground-plan compelled him to prolong his nave and choir in accordance with Anglican tradition, and there resulted an apparent hemming in of space, in spite of the fact that, with the exception of York Minster, St. Paul's is the broadest of our cathedrals.

Apart from the widely divergent forms of each feature, there is this essential difference between Gothic and Later Renaissance interiors : that, in the latter, the bays or subdivisions are but half as numerous. It is manifest that if an architect have to dispose of ground-plans of equal area,

1 "The ecclesiastical outline of St. Paul's Cathedral is a Gothic conception expressed in Italian ideals. . . . It is simply owing to the Catholic feelings of the Caroline divines."—FREEMAN.

but, in the one case, raise his roof upon eight, and, in the other, on four piers, the scale of each member of the lesser number must be such as to encroach twice as far upon the intervening ground space. In a Gothic church the comparatively slim piers will allow the eyes of one standing in the nave to pass between them to the side aisles, the division between which and the nave has nothing mural about it; in a Late Renaissance church, on the other hand, the aisles are hidden by blocks of masonry and vision concentrated along the nave. The nave arcade of a church has two functions: on the one hand, the upholding of the great centre vault, on the other, the buttressing, so to speak, of the lesser vault of the aisle; and Wren has built his of proportions so massive that each of its arches has a soffit or ceiling, besides archivolts on this side and on that.

The sixteen detached columns of the westernmost bay of St. Paul's are the only structural pillars in the interior of the Cathedral, support being elsewhere derived from engaged (*i.e.*, embedded) pilasters. These are of two orders: the greater Corinthian, the lesser Composite; and, since absolute symmetry prevails, a consideration of the nave orders will suffice for those of choir and transepts.

The roof of the nave is upborne in the first instance by Corinthian pilasters, which, by means of a two-fold stilt above their capitals, reach to the great cornice which binds the whole interior of the Cathedral together. This cornice has a break (or projecting portion) above each capital, and is of such width as to suffice for the floor of a gallery whose gilded railing runs above it, round nave, choir, and transepts. The reeding of the lower third of the pilasters must not pass unnoticed.

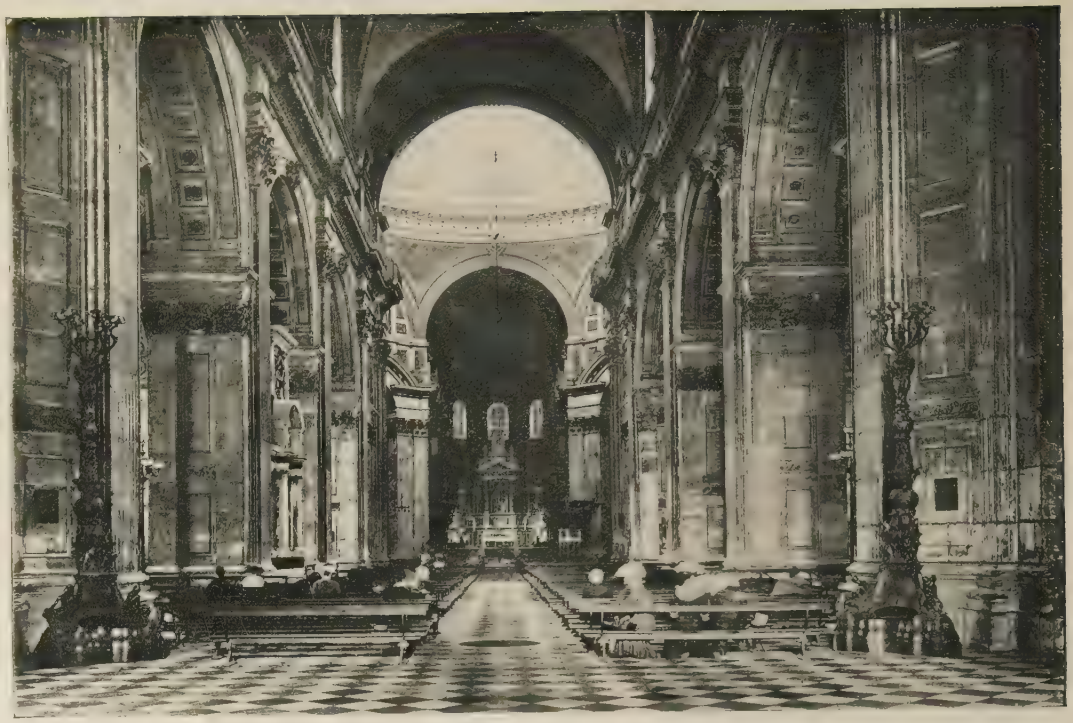

Photo by Valentine

PLATE 36.—NAVE, ST. PAUL'S CATHEDRAL

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Above the cornice, behind the gallery, rises a plain panelled storey or "attic," which, with the lesser cornice which surmounts it, also "breaks" above each pilaster. From the break of this upper cornice great arches span the nave, arches whose sources of support the eye can follow from the very ground which imparts to the nave that loftiness which is achieved by the unbroken perpendicular mouldings of French Gothic. The space between the transverse arches above each bay is roofed by saucer-domes suspended, so to speak, upon pinion-like pendentives. The richly moulded stone wreaths which mark the section or edge of these domes reach to the keystones of the transverse arches, but the wall above the attic being pierced with windows, and three of the four spaces to roof over being oblong, a hood-shaped elliptic arch is in the case of these thrown out to meet the wreath from above the windows north and south. This curious construction of a cylinder cutting an elliptic, technically called Welsh-vaulting, may have been noticed by Wren at the Sorbonne, just as his saucer-domes may derive from the aisle-roofs of the Val-de-Grâce.

The feelings of those hyper-classical critics who objected to the coupled columns of Wren's façade were even more outraged by so glaring a departure from the Greek tradition as the omission above his nave arches of two members of the entablature:[1] of the architrave, namely, and the frieze, an omission which he seemed determined further to accentuate by giving to the stilt above the capitals a form sug-

1 "Entablature: the horizontal mass supported by the columns in Greek architecture, divided into architrave, frieze, and cornice."—FREEMAN.

gestive of fragments of those very features so flagrantly interrupted.[1] Wren, satisfied that in this departure from commonly approved models he had imparted lightness without sacrifice of stability to his arcade, pointed to the Temple of Peace as illustrated in Serlio, which shows that the Romans, those acknowledged masters of building, had not hesitated to dispense with the whole entablature; and he moreover declared, upon the analogy of the same temple, that the two-fold blocks above his capitals were not fragments of a fractured entablature, but signified the ends of beams which, in the wooden structure whence the three-aisled vault lineally derived, would lie across the aisles, and of which therefore the ends only would penetrate to the nave.

Nor was the incomplete entablature the only offence in Wren's nave against accepted architectural convention. The same tradition which, according to the purists, convicted him of heresy in raising his arches through the space which should have been allotted to architrave and frieze forbade his turning the arch of his roof from an attic storey. If Wren made any reply to this objection, it has not come down us. Probably he felt, as later critics have done, that his audacity was justified by the beauty of the resultant effect. He treated the attic storey, indeed, which carried his upper windows, as though it had been the clerestory of a Gothic church.

It is impossible to notice one by one the profusion of carefully disposed details which blend together in happy

[1] A correctly tripartite entablature on a small scale surmounts the lesser order of pilasters under arches opening from the nave into the aisles. The great entablature is complete in the transepts, but cannot be seen from the nave.

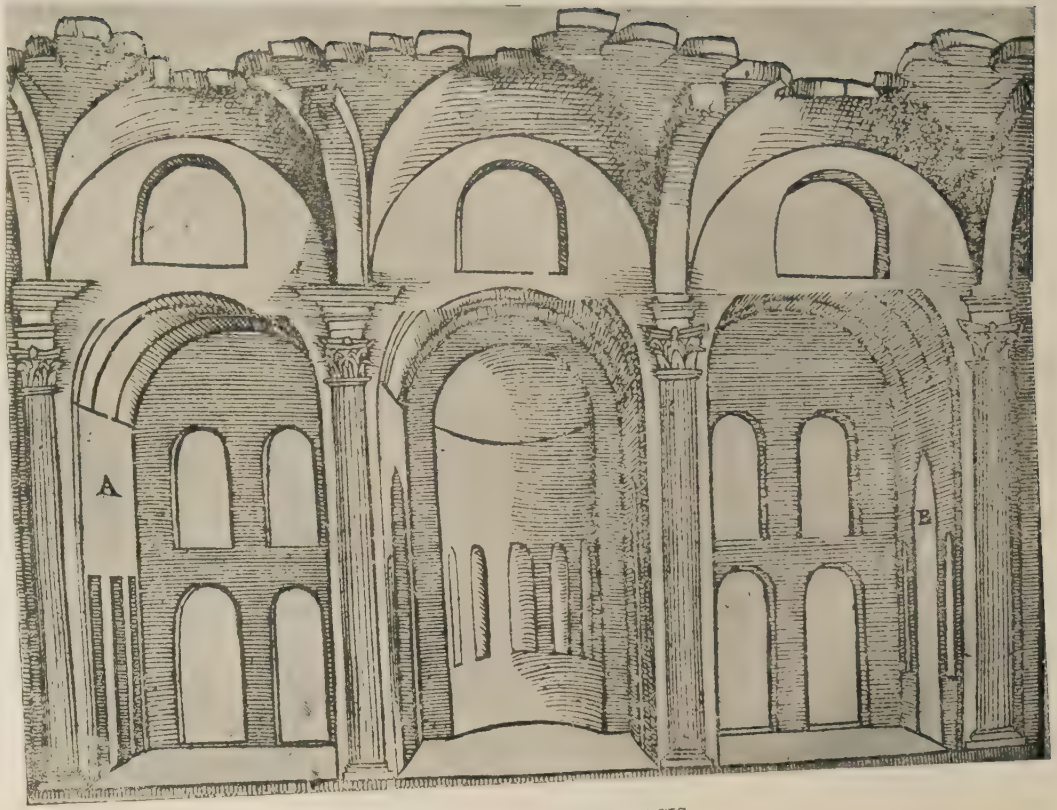

PLATE 37.—TEMPLUM PACIS

From "Architettura di Sebastiano Serlio, Bolognese," Libro III.—Venetia, MDLXVI

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subordination to produce so magnificent an effect as the interior of St. Paul's, but, before leaving the nave, the roof of the western vestibule should be compared with those of the three next bays, whose curious roof-construction has been shown to have been necessitated by their oblong ground-plan. The westernmost bay, that of the vestibule, is square, and the pendentives, or triangular spaces of its roof, are consequently equilateral. This symmetry has allowed of a further adornment of the roof in the shape of circular wreaths in the pendentives, wreaths of the kind with which Wren loved to be prodigal, but with which he never obscured his lines of construction after the later manner of Rococo artists.

In passing along the nave to the dome-space, it is important to observe how, in preparation for the increased strain, the light saucer-domes give place to a waggon-vault, that waggon-vault of deep coffering which has suggested to some impatient critics the hurling at St. Paul's nave the epithet "tunnel-like." Its purpose understood, it is seen to be structurally rather of the dome than of the nave, and as we pass below it, its crown soars more conspicuously than its sides converge.

The same great Corinthian pilasters which bear up the roof of the nave carry the dome also, but whereas there they stand singly between the arches, here they are coupled, and this in such a manner as not to encroach upon the floor space spanned by the four great arches leading to nave, choir, and transepts, but to further reduce the span afforded those slanting sides of the octagon, which are already considerably shorter than their fellows.

For the eight "legs" of the dome are not, any more

than their prototypes at Ely, equidistant. They stand forty feet apart at the four points of the compass, only twenty feet apart at the angles. Choir and transept connect with the dome by the same deep waggon-vault as the nave, and the problem for Wren to solve was this : to bring the crown of the arch spanning the narrow space to the same height as that of the wide. To the Gothic architect of Ely this presented little difficulty, for a Gothic arch is readily compressible, and he had but to make the arch of the shorter side more acutely pointed than that of the long, but Wren, committed to round arches, had no such resource.

Before, however, proceeding to Wren's solution of this problem, it is important to recall the outward configuration of the Cathedral, in order to realise that those great bastions which fill up the angles of choir, nave, and transept are immediately behind these shorter sides of the octagon, and that it was of the utmost importance to provide for the passing of the thrust from these short sides to the bastion behind them. This is accomplished by the throwing of a barrel-vault from the great pier across the aisle to the wall behind, actually that of the bastion. Above the chamfered angle of the bastion, above the opening of the barrel-vaults right and left, is a quarter dome whose section is the plain archivolt of a segmental arch whose cornice, mitred to the interrupted cornice of the great order, recalls the composition so popular for wooden doorways in the eighteenth century. This is the first tie between the great piers at the angle. Above the attic storey forms the parapet of a loggia over the quarter dome, and, from above the angular return of this attic and of the outside pilaster

Photo by Valentine

PLATE 38.—DOME AND CHOIR, ST. PAUL'S CATHEDRAL

To face p. 210

Photo by Cyril Ellis

PLATE 39.—UPPER PORTION OF INNER SIDE OF BASTION, ST. PAUL'S CATHEDRAL

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which properly belongs to the great arch, Wren throws an arch rising to an equal height with those on either side.

The elevation, however, exhibiting non-concentric arches on the same plan, and further embroiled by the straight line of the attic, cannot be accounted among the happiest of Wren's ingenuities. It is indeed the greatest fault of what is altogether the least faulty of late Renaissance interiors.

It is a relief to have done with criticism and be free to give rein to admiration. Nothing surely could be at once more soaring or more majestic than the rise of St. Paul's dome from the cantilever cornice above the keystones of the arches to the zenith of the lantern!

The choir of St. Paul's was appropriately opened for worship[1] upon that great day of national thanksgiving which was held to celebrate the Peace of Ryswick on December 2, 1697.

"This," writes Dean Milman in his *Annals of St. Paul's*, "was an event not only of importance to England, but to Europe, to Christendom. The Peace of Ryswick ratified the enforced recognition of the title of William III. to the throne of England by his haughty now humbled foe, the magnificent Louis XIV. It admitted in the face of the world . . . the right of England to determine her own religion and the absolute independence of the Church of England of all foreign authority."

But the choir to which King and court thronged then, as did Queen Anne and the Hanoverian Kings on later

1 Evelyn notes in his Diary, on October 5, 1694: "I went to St. Paul's to see the choir, now finish'd as to the stone work."

occasions of similar solemnity, wore, for the space of that century and a half, a very different aspect from that which it presents to-day, its later form being probably in many respects closer to the architect's ideal. From certain buttressings in the crypt it seems indubitable that Wren intended that the organ should be set up alongside the choir in the position which it occupies to-day, but, at the time of the building, the Dean and Chapter clung to the old monastic tradition of an enclosed choir for the recital of the Daily Offices, and, in deference to their wishes, the great architect divided the eastern arm of his Cathedral from the rest by the screen organ gallery familiar to most of us from eighteenth-century engravings.

It is stated in Dr. Rimbault's *History of the Organ*, that "in consequence of the reputation which Father Smith had acquired, he was made choice of to build an organ for St. Paul's Cathedral then in the course of erection. A place was accordingly fitted up for him in the Cathedral to do the work in, but it was a long time before he could proceed with it, owing to a contention between Sir Christopher Wren and the Dean and Chapter. Sir Christopher Wren wished the organ to be placed on one side of the choir as it was in the old Cathedral, that the whole extent and beauty of the building might be had at one view. The Dean, on the contrary, wished to have it at the west end of the choir, and Sir Christopher, after using every effort and argument to gain his point, was at last obliged to yield. Smith, according to his instructions, began the organ, and when the pipes were finished found that the case was not spacious enough to contain them all; and Sir Christopher, tender of his architectural propor-

tions, would not consent to let the case be enlarged to receive them, declaring the beauty of the building to be spoilt by the box of whistles."

This screen stood, not as the low iron screen [1] and gates do to-day at the entrance west end of the choir, but eastward of those great piers, against the faces of which there are now ranged the stalls of Dean and other dignitaries with the organ above them.

The end-stalls were in those days returned (*i.e.*, those of the Dean, of the Archdeacons of London and Essex, and of the Precentor faced eastward), which made it necessary that the two sides of the screen as they jutted out from within the first bay of the choir should be solid, while in the middle, in the opening which measured about one third of the total width of the screen, a double colonnade of slender Corinthian columns supported the organ. These columns, their flutings reeded like those of the great pilaster order of the interior, and the solid sides of the screen facing the dome space, were of marble, while all the fittings of the choir eastward were of wood.

The erection of such a screen as this, which made the High Altar invisible from any part of the Cathedral save from a narrow strip of the nave and dome-space, was the less generally deplored that, from the time of the building of St. Paul's to the middle of the nineteenth century, the tradition of worship so languished that, even on Sundays and Holy Days, such worshippers as met together were easily accommodated within the space enclosed by the

1 This has been formed of the original altar-rails of Tijou's forging set upon a marble plinth.

screen, while at other times fees were charged for admission to the Cathedral, and the vergers hired out the prebendaries' stalls at high annual rents. Dome and nave and transept were indeed never used except on state occasions and on the day when the annual charity children's service was thought to justify the erection of tiered tribunes under the dome.

The screen was removed in 1859 and the organ placed in the middle choir-arch in 1860. Ten years later, in 1870, it was divided and set up in the position it occupies now. The marble columns of the screen and part of its gallery have been re-erected inside the entrance of the north transept, while the marble panel which crowns the design has been appropriately inscribed with the Latin epitaph written by Christopher Wren the younger, and hitherto figuring but upon the plain slab which marks his father's grave in the crypt of the Cathedral.

To return to the choir, the changes wrought there are not confined to the clearing away of the screen, for the floor, originally of one level from the west door to the steps of the sanctuary, has been raised so that the whole choir stands now the height of four steps above the floor of dome and ambulatory.

The High Altar, or, as the eighteenth century termed it, the "Grand Altar," originally stood in the apse, but, at the recent adorning of the sanctuary, the new reredos was set between the easternmost piers of the choir and the apsidal space behind fitted with an altar of its own and named the Jesus Chapel, that having been the dedication of a chapel at the extreme east end of old St. Paul's crypt.

Photo by Cyril Ellis

PLATE 40.—ROOF OF LORD MAYOR'S VESTRY, ST. PAUL'S CATHEDRAL

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The fame of Grinling Gibbons, whose delicate carvings decorate not St. Paul's alone, but many of the great houses of England, has tended to rob Wren of the credit due to him for designing what are certainly the finest late Renaissance choir stalls, not only in England, but in Europe. There is a drawing extant by Wren's own hand which proves the general arrangement to be as exclusively his as the details are Grinling Gibbons's.

The amazing delicacy of Grinling Gibbons's lime-wood carving has left the masterly spacing and designing of the oaken stalls which they adorn generally disregarded, and indeed the architect, by suggesting such prodigal decoration, willingly subordinated his own share in the scheme. In the panels and columns, however, of the back elevation, those that abut upon the ambulatory, Wren is supreme, blending panels and mouldings in masterly fashion with grilles of Tijou's ironwork.

But his care was not all spent upon such parts of the Cathedral as met the public eye. At the core of those bastions which play so great a part in the stability of St. Paul's is an empty space of about twenty feet across. That on the north-west contains the staircase leading to the dome and the gallery above the aisles, the other three contain vaulted chambers appropriated to use as vestries for Deans, Minor Canons, and Lord Mayor respectively. The latter far surpasses the rest in beauty. Its tall wainscot is hung with carved festoons which have supplied the model for those which adorn St. Paul's at Christmas-time, while the radiating panels of the domed ceiling give place here and there to the cherub-heads in which Wren took pleasure.

One of the most beautiful of the lesser features of St. Paul's exterior is the Dean's door, in the south wall of the southern *campanile*, and just within it, in the basement of the clock tower at the bottom of the stair, known from its curious construction as the Geometrical Staircase, is a niche richly framed in carving and surmounted by a magnificent iron screen which here interrupts the equally beautiful hand-rail of the stair and marks the landing, which is on the level of the Cathedral floor. The base of the clock tower is square externally, but its core is cylindrical, and round it winds the ingenious stone stair which gives access, on the one side, to the library and, on the other, to the western galleries of the Cathedral.

We have seen how the upper half of the external wall of St. Paul's has for the most part a vacuum behind it, but, in the case of the chapels at the west, those chapels which interrupt the perpendicular lines of the campanile on their north and south sides, this space is occupied by rectangular apartments of identical size, both of which Wren is thought to have intended for libraries. Only one, however, has been thus furnished.

The apsidal east end of the Cathedral interior was in Wren's lifetime finished in a manner expressly regarded by him as temporary, according to *Parentalia*, "intended," writes Stephen Wren, "only to serve till such Time and Materials could have been procured for a magnificent Design of an Altar consisting of four Pillars wreathed, of the richest Greek Marbles supporting a Canopy hemispherical, with proper decorations of Architecture and Sculpture for which the respective Drawings and a Model were prepared."

Photo by Cyril Ellis

PLATE 11.—UPPER PORTION OF DEAN'S DOOR, ST. PAUL'S CATHEDRAL

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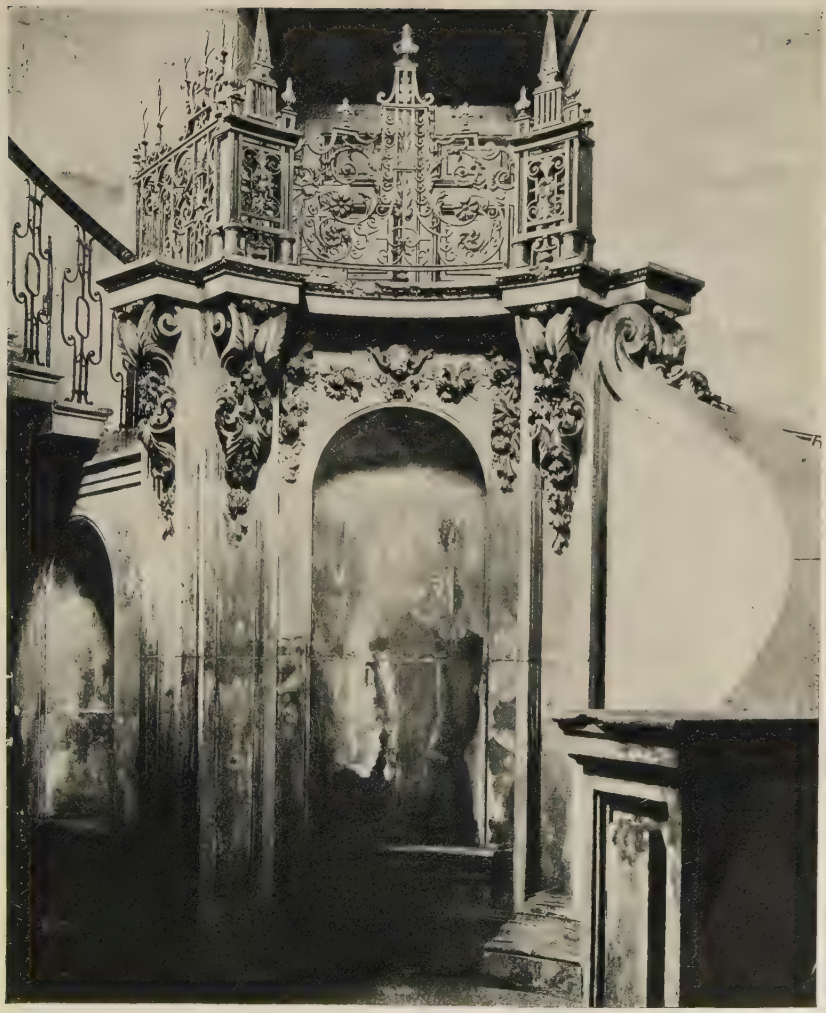

Photo by Cyril Ellis

PLATE 42.—WITHIN DEAN'S DOOR, ST. PAUL'S CATHEDRAL

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Photo by Cyril Ellis

PLATE 43.—LIBRARY, ST. PAUL'S CATHEDRAL

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Of this all that survived for the guidance of the designers of St. Paul's reredos was a wooden model of four pillars wreathed. These have been successfully incorporated, and the whole structure is undoubtedly the most dignified altar-piece produced during a century which will be more generally associated with the deplorable demolitions occasioned by the Gothic revival. But it is impossible not to regret that no place was found for the "Canopy hemispherical." Moreover, since Wren objected to towers on the ridge of his roof, would he not have raised objection to so cumulative a design as that of Messrs. Bodley and Garnier?

This is no place in which to discuss the merits of the Richmond cycle of mosaics. That their glowing colour and sparkling surface enhances the sumptuousness of St. Paul's choir and sanctuary can no more be denied than that they are conceived in a spirit altogether alien to that of the Renaissance. Full of elaborate symbolism, weighty with intention, their forms derive from a period when the walls of a church were the poor man's Bible; their subject matter is from the catacombs, their technique from Byzantium and Ravenna; the decorators of the basilicas, and later the artificers of Gothic detail, considered the glory of God best promoted by the edification of the faithful.

Very different was the Renaissance ideal, different most of all at that late period of which St. Paul's is representative. All sharp division between sacred and secular had been broken down, paganism as a religious force was a foe no longer feared; let all that it had of best be fearlessly applied to God's service, and that in all the fullness of its beauty without adaptation. Let a church differ from the

courts of kings only in being more full of splendour, the Divine Presence of the Altar sufficing to sanctify all within the walls of its abiding place, only what is unsightly is unworthy. What is St. Paul's but the monument of the Church's victorious struggle with mediævalism? She retained unaltered that ground-plan of the cross upon which Christianity must ever be built up while attracting to herself the manifestations of beauty of past ages and asserting her right to that wide inquiry of which Wren, with his vitality, his scientific erudition, and ready resource, is the type for all time.

Fifteen hundred years had elapsed before, by the teaching of the humanists, the words spoken to St. Peter at Joppa met their full interpretation: it was at the hands of the merry-hearted artists of the Renaissance that, clad in form and colour, the message was carried to the ends of the earth:

"Quæ Deus mundavit, tu ne commune dixeris."

PLATE 44*a*.—DETAIL OF CARVING, ST. PAUL'S

PLATE 44*b*.—DETAIL OF CARVING, ST. PAUL'S

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CHAPTER XV

PARISH CHURCHES

For a consideration other than superficial of Wren's City churches it is essential to bear in mind the type of religion prevalent at the time of their building. Affording as they do great variety of structural detail, adapting themselves to sites of awkward configuration, hemmed in generally on two sides, sometimes on all four, by places of business, their dusky interiors have, for all their differences, certain common characteristics which combine to produce a mood of complacency inconsistent with missionary zeal or much searching of conscience. Churchmen of that later seventeenth and early eighteenth century practised a reserved devotion and were as little prone to consider the critical issue of their own tenets as to deem them inconsistent with a clinging to creature comfort. Of comfort, too, their appreciation was consciously the keener for memories fresh in their minds of misery wrought by the fanaticism which they deplored as "enthusiasm" [1] and shunned as an infectious distemper

[1] The Royal Society is thus eulogised by Dr. Sprat: "Their first purpose was no more than only the Satisfaction of breathing a freer air, and of conversing in Quiet one with another, without being engaged in the Passions and Madness of that dismal Age. By this means there was

of the soul. Spirituality was at a low ebb, and rampant Erastianism finds expression in the lion and unicorn, which, rivalling Moses and Aaron as tutelary saints, flank the Decalogue not altogether inappropriately, symbolising as they do that law and order which the citizens, after two decades of civil strife, had come to value above all things as the best guardians indeed of their liberties.

There is no suggestion of mystery in these City churches: no dim aisles lure the soul to speculate upon things unseen, no majestic altar elevation typifies arduous access to the Most High; the mood indeed is rather calm than ecstasy. Devotion here would scarcely disturb a prosperous trader's conception of the world as a pleasant place in which an honest man can await without fretful impatience the summons to another. Even the most devout in those days esteemed religion acceptably respected rather by reason than by rapture.

On the other hand, we find here displayed no trace of that Puritan contempt for the dignity of the Sacraments which it should be the aim of certain nineteenth-century evangelicals to rival. The sanctuaries of these churches are carefully enclosed against profanation; the most elaborate carving is that of the altar-piece, while the font of precious marble lavishly adorned is reverently covered.[1]

a Race of Young Men provided against the next Age whose Minds receiving from them their first impression of sober and generous Knowledge, were invincibly armed against all the Inchantments of *Enthusiasm*." Dr. South, in his sermon on Romans viii. 14, spoke of "*Enthusiasm*: that pestilent and vile thing which has thrown both Church and State into confusion."

[1] Especially beautiful are the fonts of St. Margaret's, Lothbury, St Stephen's, Walbrook, St. Margaret Pattens, and All Hallows, Lombard Street.

There is abundance of evidence that a genuine piety, a keeping of God in mind, distinguished many throughout this period, a period of about a hundred and fifty years, whose complacent God-fearing found first literary expression in the radiant prose of *Religio Medici* (published 1642), the ruffling of whose characteristic equanimity is foreshadowed in the heart-searchings of Dr. Johnson's *Prayers and Meditations* (posthumously published in 1785). But it cannot be gainsaid that the constant curbing of any token of zeal, the ceaseless preaching of moderation, tended to thin the reserve forces of popular religion and left the more thoughtful an easy prey to the mocking rationalism of the eighteenth century, just as the exclusive study of the exact sciences, directing his undivided attention to the circumscribed area of the senses, gradually withdrew man's interest from that world of which all religions must agree to consider this one as but the threshold.

The current theory [1] that Wren designed all his towers and steeples as a setting for St. Paul's is surely an exaggeration of fact. That the slim leaden spires of St. Martin's, Ludgate, and of SS. Augustine and Faith, and the stone steeple of St. Vedast's, standing under the very shadow of the great Cathedral, were planned with deliberate intention of enhancing the majesty of the dome seems the most that can be asserted in this connection, since the fact that the parish churches were rebuilt upon their mediæval sites precludes any idea of actual grouping. Frustrated, as we have seen, in his scheme for rebuilding the whole city in a

1 Propounded of late years by William Morris.

manner alike spectacular and practical, Wren, compelled by public sentiment to re-erect fifty of the eighty-six churches destroyed as nearly as possible on their old foundations, took special delight in crowning their towers with spires and lanterns of the utmost variety, a variety not altogether inconsiderate of the parishioners' feelings, since in many cases Wren's design was reminiscent of the mediæval one. In those days of two- and three-storeyed houses the view of London's varied skyline from Southwark and the bridges must have been of infinite charm—a charm due almost entirely to the versatile genius of one man.

Lack of funds hindered the citizens from rebuilding many of their churches, and it is easily conceivable how the funds, deriving even from a heavy coal-tax and generous private benevolence, proved hardly adequate to meet the sudden strain incurred by the interruption of business, so that to motives of conscientious economy must be attributed the monotonous austerity of walls and windows in these City churches. Wren spared no pains to lay out public money to best advantage; he insisted upon solidity and proportion; but it is inconceivable that a talent of so genial a turn as his could have acquiesced other than unwillingly in external elevations as dull as those of St. Stephen's, Coleman Street, and St. George's, Botolph Lane.

The ground plans of Wren's parish churches have been traced back to the basilicas of early centuries, but there is no evidence to prove that among the great architect's scientific pursuits that of ecclesiology then in its infancy, was included, and, since he had no open spaces on which

to draw his schemes, but was compelled in most cases to make the best of the sites as he found them, with all the strange irregularity of demarcation due to the gradual encroachment of dwelling-houses upon the precincts of mediæval shrines often half ruinous, it is more likely that his rectangular interiors accorded as well with a tradition familiar to the citizens of London as with his own love of symmetry.

It is obvious that from the few churches which escaped the Fire we can best form some idea of the features most common amongst those churches that perished, and since only one of these is cruciform, and that the oldest (St. Bartholomew's, Smithfield), the cross shape so usual in the country had evidently not often been followed in London. With the exception again of Norman St. Bartholomew's (though even here the Lady Altar has a straight wall behind it), the English custom of square east end seems to have been generally followed, and in two-aisle churches (such as All Hallows, Barking-by-the-Tower) the length to aisles and nave (originating, it is said, from the Black Prince's special devotion to that doctrine of the Blessed Trinity symbolised by this form) seems not to have been uncommon. At a later date, when need arose for more church accommodation, what more natural in such churches as boasted choirs than so to lengthen the aisles that the east wall of the sanctuary should project either very little or not at all? Thus would result just such a square outline as Wren favoured, and one technically basilican, the more so that Wren often set his altar in a shallow apse. The one-aisle ground plan, which he followed almost equally often, is common in churches of mediæval origin, the aisle

being sometimes (as at St. Ethelburga's) an adjunct to the nave, sometimes, in monastic churches (such as St. Helen's), appropriated to the religious, the nave being for the parishioners.

It is obvious that Wren intended the choristers to occupy the organ-gallery, so that the arrangement now most in vogue of disposing the singers right and left of the approach to the altar was never part of his design. It is indeed of comparatively recent invention, deriving from Tractarians, who, finding a sympathetic tradition of ritual dignity still clinging to the cathedrals, made it their aim to approximate parish worship as far as possible to cathedral use, a purpose to which no buildings lend themselves less readily than those which we are considering.

Although such of Wren's churches as have been left standing (it must be borne in mind that out of a total of fifty, seventeen have been swept away) have undergone little structural alteration, the hand of the nineteenth-century restorer and decorator was laid heavily upon most of them at a time when a revival of Catholic fervour brought mediævalism and its attendant symbolism into fashion. Panelling was ruthlessly torn down and replaced by mural paintings of pious intention but execrable execution, the small, clear panes of Wren's glazing, so admirably adapted to London's gloomy sky, gave place to stained glass of kaleidoscopic crudity; while the tables of the law, which to the seventeenth-century scorn of the sentimentally appropriate had but furnished occasions for garlands of fruit and flowers and frolics of cherubs, were either painted over with stereotyped evangelists, hidden by curtains sten-

cilled with fleur-de-lis, or, worse still, replaced by stone reredoses of churchwardens' Gothic.

So it is that the student of Wren must be prepared for a feeling of disappointment in visiting the parish-churches of the City, few of which are, at first sight, impressive. It is only by patient study, not of existing detail only but of records of detail destroyed—only by a resolve not to be deterred by the glaring offences of restorers—that a true estimate can be formed of the architect's prodigious ingenuity in roof-construction and mastery of space disposal, as we trace his progress from the rank of amateur of genius to that of artist. This long road it was which he covered during the years that elapsed between the building of Bow Church and the completion of St. Paul's.

Nor is it to the student of ecclesiastical architecture alone that these churches are interesting. It is in the wainscot of their vestries,[1] in their gallery-staircases and entrance-lobbies, that Wren's domestic architecture is best studied, since so few of the dwelling-houses which he built have survived, and, of these, fewer still are accessible. The oak staircase that connects the baptistery of St. Mary Abchurch with the organ-gallery, the similar ones at St. Martin's, Ludgate, and St. James's, Garlickhithe, bear that stamp of personality without eccentricity which great men come to achieve without effort indeed, but only after long apprenticeship and much careful consideration of other men's work.

It is not, however, entirely due to restorers that, with the possible exception of St. Mildred's, Bread Street, no

[1] Especially remarkable at St. Laurence Jewry and St. Michael Royal, College Hill.

City church interior presents exactly the appearance it did in Wren's day. The pen-like pews, which the lack of heating apparatus then made imperatively necessary to the citizens' comfort, have been cut down to open benches, the pulpits have been lowered in accordance with modern use, the seats before the altar have been turned choir-wise for the singers, the altar has been raised upon a foot-pace. These alterations, inevitably ensuing on changes of custom, have in some cases been carried out in a form as far as possible in accordance with Wren's tradition. There are few jarring notes, for instance, in the cases of St. Martin's, Ludgate, St. Margaret's, Lothbury, and St. Margaret Pattens, but too often elsewhere a reckless modernising has gone far to destroy that harmony between fittings and fabric which is essential to the maintenance of mood.

It was obviously impossible for so great a number of buildings to be undertaken at once, nearly five years elapsed after the Fire before the rebuilding of any parish-church; and meanwhile the devout of the City met for worship in temporary buildings known as "tabernacles," erected among the smoke-blackened ruins. To judge from Hollar's print, the church walls still stood upright in many cases, while, of the wooden dwelling-houses, scarcely a trace remained. The indefatigable Wren seems even to have superintended the raising of these ephemeral structures for, in the registers of St. Peter's, Cornhill, there is an order, dated December 31, 1672: "that the churchwardens do present Dr. Wren with five guineas as a gratuitee for his paines in furtherance of a Tabernacle for this parish."

Further accommodation was afforded Church-people by

strong measures adopted about this time against the sectaries. In a news-letter dated June 11, 1670, we read that the King in Council "gave orders for the pulling down of the seats and pulpits in all the meeting-houses in London, Bristol, and other places," and further that, on the 13th of the same month, "Dr. Wren the King's Surveyor disfurnished four or five places erected by Nonconformists of several persuasions in and about the City." The "disfurnishing" would seem in many cases to have stopped short after a symbolical hauling down of the pulpit, since the buildings, probably not more than sheds, were taken over for the use of the Church. The congregation of St. Martin's, Ludgate, on the other hand, gathered in the new Stationers' Hall until such a time as their church should be completed.

For the towers and steeples of the churches there was of course less pressing need, which gave more leisure for their designing. They belong, therefore, to a later period of the architect's career, which makes it desirable to consider them separately, while, since the little series of dome churches—now, alas! incomplete, owing to the destruction of two[1] of the number—comprises some of his earliest work in the City, and is further interesting as illustrating those experiments in dome-construction which culminated in St. Paul's, it will be well to consider them first, bearing in mind that none of these domes is constructed of stone or brick.

Canova is said to have expressed a wish to visit England again, if only to see St. Paul's, Somerset House, and St. Stephen's, Walbrook, and this anecdote, added to the

[1] St. Antholin, Watling Street, and St. Benet Fink, Threadneedle Street.

amazing originality of its interior, has made St. Stephen's the subject of an extravagant eulogy [1] which has led many who have never troubled about Wren's other parish churches to visit this one.

A calm examination reveals it, none the less, as the magnificent experiment of a 'prentice hand. Wren, with St. Paul's ever in the forefront of his mind, took the earliest opportunity of building a dome, and that his domed City churches were indeed preparatory for his supreme effort seems obvious from the fact that they are all among the earlier rebuildings undertaken after the Fire, and that, the dome of St. Paul's once begun, he devoted no more time to dome-construction on other sites.

Of the six City churches with domes, two—St. Benet Fink and St. Antholin—have been sacrificed to commercial iconoclasm. Both of these had elliptical cupolas of exceptional interest, and, together with the five that still survive—St. Stephen's, St. Mary-at-Hill, St. Swithin's, St. Mildred's, St. Mary Abchurch—were built within the space of fourteen years (1672–1680).

The exterior of St. Stephen's, which, at the time of its erection, was even more encroached upon by houses than it is to-day, is among the most forbidding of Wren's austere elevations. Cunningham, writing of it in 1850, declares that "never was so sweet a kernel in so rough a shell." Nor does the roughness relent in the concentrated ornament of the porch, as became customary in the architect's later work, for the mouldings are here awkward and uncouth. The entrance is none the less

1 "Justly reputed the masterpiece of Sir Christopher Wren."—Ward's *Lives of Gresham Professors*, 1740.

Photo by Cyril Ellis

PLATE 15.—INTERIOR, LOOKING WEST, ST. STEPHEN'S, WALBROOK

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interesting to students of Wren, for, as at St. Mary le Bow, the original doors are still in place, their spiked tops sloping towards the middle and so giving light and air to the vestibule, whence a flight of thirteen steps leads into the church, the floor of which is raised considerably above the street level. The keystone of the arch below the steps is a fair example of that graceless convention of classicism whence Wren was so soon to emerge.

The interior, crowning as it does with some measure of success the first example of an attempt constantly renewed to impart cruciformity to a ground-plan without projections by the spacing of columns, is so startling that it may well make the spectator for a while uncritical. Strikingly beautiful is the arrangement of light, beautiful the spring of the columns from their tall bases, amazing the sense of space given by an area actually so small (82 feet 6 inches by 59 feet 6 inches). But there is a lack of convincing strength in the support of the dome upon the re-entrant angles of the architrave. A shallow dome resting, as this one does, on pillars without intermediary drum, is suggestive rather of a canopy of textile fabric than of a solid vault, and, while the pillars of St. Stephen's are of stone, the cupola is, like the external dome of St. Paul's, of timber and lead. This has, indeed, been attributed to lack of funds, but, in any case, Wren does not appear to have prepared sufficient abutment to resist the continuous thrust of a dome of masonry. Exulting in his own skill, he was ever a little prone mischievously to enjoy startling the ignorant, and, during his earlier period, often forgot that the stability of a building must not be discernible to science alone; that that capriciously imperfect instrument,

the eye, must be satisfied of security before it can appreciate symmetry. That Wren always proved his structures mechanically sound is no more indisputable than that his critics too had right on their side when they protested for the maintenance of that serenity which comes of assurance of safety.

As we look up at the dome of St. Stephen's and consider the disquieting airiness of its supports, comparing them with the supremely adequate buttresses of that great dome for which the raising of this one partly prepared the builder, we realise how much of grandeur, of dignity, Wren had yet to learn to express. For St. Stephen's is without solemnity, it is a mere room of assembly: its effects are theatrical, almost flimsy in some aspects.

If immaturity be discernible in the structure, it is yet more conspicuous in the coarseness of the surface ornament, which has been the more thrust upon observation by the stripping of the oak panelling which formerly enclosed the bases of the columns. Whether that was wisely done or not is a matter of dispute. On the one side, partisans point to a contemporary print in which the bases are bare, and to Wren's expressed dislike of the pewing, which was the excuse for the panelling. On the other hand, some say that in the print the absence of panelling was a mere convention to exhibit the architecture, and that the genial Wren could never have intended his church to be as bare and cold as it is now. Be this as it may, there can be no defence for the modern choir seats, whose ambitious carving looks the poorer for its introduction into a building still rich in carving wrought under Wren's direction.

An anecdote which reaches us through one of Wren's few descendants proves that the structural error of St. Stephen's did not pass unnoticed in his own day. It is related that the workmen employed in building expressed grave doubts as to the stability of the church, and that, moreover, several of the architect's friends remonstrated with him for being so daring, and thus risking a reputation which had been safer in paths more trodden. Wren, however, persisted that his calculation was correct, and gave peremptory orders for the removal of the scaffolding. His friends' warnings had none the less made him uneasy, and he ordered his carriage to be ready at the hour at which he knew the last pole would be removed. Driving straight to the church, he alighted; a glance sufficed to show that all was well, and his friends, who had gathered to congratulate, found him on his knees returning thanks to God.

Few City churches have suffered more grievously at the hand of the restorer than St. Swithin's, London Stone, which comes next in order, having been built in the year following that of St. Stephen's completion. No more deplorable deed of constructive Vandalism has been committed than the insertion of tracery in Wren's windows such as we find here (and again at St. Mary's, Aldermanbury); no means could be devised more effectual to frustrate the architect's intention than the colouring here spent upon his dome, a dome rich both in plaster work and in admirably proportioned panelling. But it is worth while to ignore the rays and stars and evangelists which compete for denunciation, since the construction of St. Swithin's roof is of extreme interest. Here an octagonal

dome roofs over the whole interior of the church, while a strip which projects on the north beyond the square of the ground plan is utilised for a vestry with organ-gallery above it.

The entablature, which bears up eight sections of the dome, rests upon semi-engaged columns except at the north-east point, where a complete column allows the gallery to pass behind it. This piece of ingenuity, which we shall find repeated at St. Mary Abchurch, is one of those in which Wren appears to have taken peculiar delight. The skeleton construction which is so unpleasing at St. Stephen's is here only discernible at the angles across which the entablature passes, the small triangular space behind it having a flat ceiling. We shall find this difficulty finally overcome at St. Mary Abchurch.

St. Swithin's, has another point of interest, in that its surface ornament illustrates a remarkable advance in decorative excellence, an advance no less discernible in the external mouldings of doors and windows, which have none of the uncompromising austerity of those of St. Stephen's.

Begun in the same year as St. Stephen's, but completed four years earlier, St. Mary-at-Hill is very much the least interesting of the five domed churches still standing. It is indeed, in some classifications,[1] considered as not domed at all, but the shallow cupola and lantern at the intersection of the barrel-vaults are sufficiently distinctive features to justify the church's inclusion in the series of dome-experiments. It can never have been, in any degree, comparable to St. Stephen's, and much of the interest it

[1] *E.g.*, in Stratton's *Life of Wren*, privately printed, 1897.

originally possessed passed away when, in 1848, it was entirely refitted. To this refitting it owes much hybrid Greek ornament, and to this recent period one might be disposed to credit the anomalous capitals of the four fluted columns which, with their entablature, support the barrel-vaults above mentioned, and the pendentives from which the dome springs, for Wren was generally careful to avoid any such departure from classical form. In Hatton's *New View of London*, however—published in 1708, about thirty years after Wren completed his work at St. Mary's—the columns are described as "of no order at all but a specie partly composed of the Dorick and Corinthian."

The old pews remain, but most of the carving and the stucco relief of the vaulting date from 1848, so that interest centres round the flat cupola and its sources of support. Above the pendentives runs a narrow cornice adorned at intervals with cherub-heads, and these are among the few details that recall the manner of Wren's workmen.

Five years elapsed between the erection of St. Swithin's and that of St. Mildred's, Bread Street, years during which Wren had work in Dublin and Oxford in addition to that of London, and the advance in architectural mastery so startlingly exhibited at St. Mildred's is no doubt the more conspicuous for the fact that the wanton destruction of St. Antholin's, Watling Street, with its elliptical dome, had deprived us of an important link in Wren's development.

Unless specially set upon perfecting himself in the intricacies of dome construction, Wren would scarcely have chosen to roof over a long parallel space like the ground

area of St. Mildred's in this manner. But as usual the beauty of the achievement tends to blind us to its ingenuity.

The entrance lobby is, in accordance with the architect's favourite practice, under the west gallery, which is roofed over by a coffered barrel-vault spanning the whole church and vestry upon modillion-shaped brackets projecting from the north and south walls. A similar strip of barrel-vaulting spans the sanctuary, and, over the square space between these arches, rises the cupola, its curve starting from behind a richly moulded cornice. The spandrils between the wall of the church and the barrel-vaults are ornamented with stucco, but the surface of the cupola is quite plain, some cherubim in relief which formerly adorned it having been removed in the middle of the last century.[1]

This is, however, almost the only regrettable incident in the architectural history of St. Mildred's, which has suffered less than any other City church at the "beautifier's" hands. The pews are original, retaining even their doors and sloping book-rests, while the churchwardens' seats—differentiated from those of the mere parishioners not alone by being raised above the rest, but by lavish fret-carving—the font in its marble-paved recess, the pulpit with its wrought hand-rail, fringed hangings, and elaborate sounding-board intact, the simple device which combines lectern and prayer-desk below it, the unobtrusive colouring of the stately roof—combine to produce an impression of sober, self-sufficing affluence which is still

[1] Some idea of them can be gained from a plate in Godwin's *Churches of London*, 1838.

characteristic of London citizens, although, from the outward circumstance of their worship, it has in most cases passed away.

St. Mary Abchurch, externally of red brick with stone quoins, the last of Wren's domed City churches, was completed in 1686.

The entrance is on the south, the paved space across which the church is approached from Cannon Street having been originally its churchyard. It was perhaps the awkwardness of this southern elevation, its great central window flanked by others of unequal size, of which the westernmost composes awkwardly with the doorway below it, that prevented Wren from following the practice, common with him at this period and charmingly illustrated by S. Benet's, Paul's Wharf, of relieving the austerity of brick walls by festoons of carved flowers. Certainly the exterior of St. Mary Abchurch has nothing of the sumptuousness of the interior, the details of which are, except in bright sunshine, scarcely discernible without artificial light, so darkened is this church by the tall surrounding houses.

The ground-plan is, like that of St. Swithin's, nearly square, the shallow projection on the west being appropriated to the baptistery and the vestry, above which is the organ gallery, approached by the oaken stair mentioned above.

The pendentives of the dome rest here at seven points upon brackets in the form of Corinthian capitals tapering to a gem-like pendant, while, at the eighth point, the same device is followed as at St. Swithin's of a single column which allows the gallery to pass behind it. At the angles of the church the transition from square to round is

ingeniously and gracefully accomplished by means of double groined vaults, of which the points meet upon a fragmentary engaged pilaster, which fills the corner. Above the pendentive a cantilever cornice with delicately moulded modillions of slight projection is the starting point of the semi-spherical dome pierced by four oval windows. The paintings, with which Sir James Thornhill adorned the dome within a short time of its building, have darkened to a prevailing bronze which harmonises admirably with the richness of the internal fittings, in the unaltered condition of which St. Mary's is second only to St. Mildred's among City churches. The pews of the central area have indeed been cut down, but the high seats with tall wainscot behind them and fret carved panels to their doors which line the north and south walls, wherein enclosed the children of the parish schools worshipped in physical discomfort for the space of two centuries, are as little changed as the carvings of door-cases, pulpit, and altar-piece.

Among the earliest of Wren's rebuildings was the church of St. Laurence Jewry, to the vicarage of which his old friend Dr. John Wilkins had been appointed in 1662. Five years later Wilkins was promoted to the bishopric of Chester, while the foundations of the new St. Laurence's were not laid until 1671. Since, however, it is fair to assume that the architect's plans for rebuilding were submitted to Wilkins, it is surely permissible to trace the influence of the Doctor's notoriously Erastian leanings in what is as surely the most consistently secular as it was the most costly of Wren's City churches.

The site of St. Laurence's, extending eastward to the street by which alone civic processions passed to Guildhall,

PLATE 46.—INTERIOR OF ST. MARY ABCHURCH

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was safe against the building encroachments to which such other sites as were not already encumbered were continually exposed, and Wren was not slow to avail himself of the opportunity for an eastern elevation of greater dignity than was usually attainable. The parishioners, moreover, assisted no doubt by the Corporation, placed a larger sum at the architect's disposal than did any other London congregation.

St. Laurence's is entirely of Portland stone, and stands free on three sides, the windows on the north side alone retaining their original glazing, the replacing of which by stained glass has nowhere been attended by results more conspicuously disastrous than here. The escape of these windows is surely owing to the happy accident that they give light to a lobby divided by a screen wall from the body of the church.

The eastern elevation is lavishly adorned in portico fashion. Standing upon a tall stylobate, four three-quarter Corinthian columns support an entablature and pediment, on either side of which breaks in stylobate and entablature connect the design with engaged pilasters at the angle. Of the five wall spaces there provided, two are occupied by large windows, the other three by niches whose depth maintains the impression of solidity created by the high relief of the column. Windows and niches are flanked by a lower order of pilasters, while the wall space between external mouldings and entablature is hung with stone wreaths.

The western lobby through which the church is entered from Gresham Street is in that grand manner which Wren would learn so well during the next ten years, but which, at the time of the building of St. Laurence's,

was still but occasionally his. The lobby is in two parts connected by a very tall arch, the first portion having an elliptical dome for roof, and the second, that forming the basement of the tower, an octagonal lantern. The door cases are magnificent, the proportion of the space, superb. All the more disappointing is the interior of the church. It is as though Wilkins had bade his friend design an ideal lecture-room for that Royal Society whose prosperity both had so much at heart, to whose scientific reputation both had contributed. St. Laurence's is academic rather than ecclesiastical. The flat trabeated ceiling coves on all four sides to the great cornice, which is itself upborne on the south and east by Corinthian pilasters, on the north by columns between which and the screen wall already mentioned there is a narrow aisle. Over each column the entablature is complete, but since the projection of the cornice would interfere with the light, this member is cut off under each window and replaced by a label-shaped flat panel. Thus on the north and south; on the east—and this is the only attempt at differentiation—the cornice is uninterrupted, and the frieze, plain elsewhere, is adorned with carved ornaments.

We have said that the details of Wren's domestic architecture are best studied in the City churches, and there is no finer example of his power of impressing dignity on small spaces than is afforded by the little vestry of St. Laurence Jewry. The fireplace stands across one corner in the fashion which Wren favoured, and the picture above it is set in a panel of bold acanthus moulding in low relief and surmounted by a carved ornament, in the centre of which and from the festoons which hang down at the side, are

Photo by Cyril Ellis

PLATE 47.—STAIRCASE AT ST. MARY ABCHURCH

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Photo by Cyril Ellis

PLATE 48.—DOORWAY IN VESTRY OF ST. LAURENCE JEWRY

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pendants of textile form. The cornice of the room, which breaks above the doorway, is among the noblest of Wren's designing. Wreaths like those above the fireplace hang above the two double doors and down their sides, while the other panelling is framed in a simple ribbon moulding. The ceiling is of great splendour, recalling that of the Board Room at the New River Company's House in Clerkenwell, the Court Room at Rochester, and of that Aldermen's Room at Guildhall, which has suffered so terribly at the hands of subsequent decorators.

Though the ground plans of the rebuilt City churches can be traced back to mediæval sources, no such precedent can be pleaded for the type of church with wooden galleries north and south—that type which for a century and a half should be that most in vogue not with Church-people alone but with Roman Catholics and Nonconformists. Diverting as it does the dignity of God's altar to the uses of man's pulpit, it is the type most at variance with Catholic tradition, and its popularity in England certainly synchronises with the prevalence of Protestant and Puritan carelessness for seemliness in worship.

Among the first actions, for instance, of the Long Parliament had been the erecting (in 1641) of a wooden gallery in the north aisle of the Commons' beautiful parish-church, St. Margaret's, Westminster, and the setting up of another in the south aisle (in 1681), when Church and King had been restored, is but an example of the public proneness to grow reconciled to ugliness.

The women's galleries of some Roman basilicas, the triforia of Romanesque and early Gothic cathedrals, triforia which, shrinking to mere blind arcades, ultimately

gave place to tall clerestory windows, might indeed be held as giving the countenance of tradition to a double-tiered congregation; but, architecturally, there could be no devices more dissimilar than that of accommodating worshippers above the aisle-vaulting, and their seating in wooden galleries suspended midway between floor and roof.

That Wren, with his love of space, should have consented to build on a plan which, of all plans, is the most cramping can only be accounted for by considering that urgent need arose for accommodating the largest possible number of worshippers upon ground-plans of limited area.[1] Ninety churches had been destroyed in the Fire; it was not deemed advisable to rebuild more than fifty, and although this points to a foreseen shrinkage of population inevitable upon the widening of streets, in some parishes the churches would no doubt have been overcrowded had not provision been made by galleries which, in certain cases, are recorded as having met special needs: those of Christchurch, Newgate Street, were appropriated, for instance, to the boys of Christ's Hospital, while those of St. Andrew's-by-the-Wardrobe were allotted to the parishioners of St. Ann's, Blackfriars, whose church it had been decided not to rebuild.

Of the popularity of this type of church there is ample evidence in the fact that it was adopted not only in the City (where, in addition to those examples already cited, it is still illustrated by St. Andrew's, Holborn, and St. Bride's, Fleet Street), but in the two parish-churches which

[1] It must be borne in mind that the galleries north and south have been removed in several cases, from St. Mary-le-Bow, for instance.

Wren built outside the confines of the City, in St. Clement Danes, namely, and in St. James's, Piccadilly.

St. Bride's, Fleet Street, is the earliest of these churches, and was built in 1680, its fine steeple having been added some twenty years later.

Here the great single windows of the north and south walls, and the tall coupled columns which divide nave and aisle, might lead those familiar with the galleried churches of a later period, with their double-tiered fenestration and carefully designed, superimposed arcades, to think that the galleries of St. Bride's were no part of the architect's original plan, but there is no justification for any such inference. There were galleries above the aisles in the very first City church, St. Mary-le-Bow, which Wren built, and the single order of columns there is as little adapted to galleries as the coupled one of St. Bride's. The idea of absorbing the gallery into the church's architectural organism does not seem to have occurred to Wren until he had built more than one gallery as a frank interpolation, the result of necessity. So, at St. Bride's, the gallery is propped upon pilasters abutting on the columns east and west.

The church has recently lost much of a certain sober charm that once distinguished it by having been submitted to a scheme of decoration precisely recalling that of a fashionable restaurant, but it is worth while to ignore this, for its construction has many points of interest.

The coupled columns carry oblong impost blocks, the longer side running north and south, which device allows of the arch which binds the columns together being of considerable thickness, and its soffit is delicately coffered,

while the keystones of the arches exhibit cherub-heads. Springing from a bracket in the centre of each spandril, arches with coffered soffits span the nave, the spaces between being scooped out on either side something in the manner known as Welsh vaulting, to allow of an oval window lighting each bay. The panels of the gallery-front are rich examples of what was known, at the time of the building, as *bolition* work—a term for which we must await a modern equivalent until such a time as our designers can vie with Wren and his subordinates in giving variety without subject to plain surfaces.

In the vestry, which dates from the later eighteenth century, there hangs an autograph note addressed by Sir Christopher Wren to the Rector, "Mr. Dove at his house in Salisbury Court."

"Sir," it runs, "I send you the rates corrected upon Mr. Kinnaird's paper according to the best of my judgment which will serve you to make a bargain upon and I believe it may be performed for the money in good materialls and good worke.—Your faithfull servant,

"Christopher Wren."

While the church was being planned in 1678 Mr. Dove lost his wife, and the tablet which bears her epitaph on the wall of the south staircase leading to the gallery has the dignity and fit proportion which characterises Wren's work of the simpler sort. There is no other reason for attributing it to him except that partiality which credits him also with the choice of the brass alms-boxes. In both cases it is likely that he was at least consulted.

If any proof be needed by students of his work that the

Photo by Cyril Ellis

PLATE 49.—VAULTING ABOVE GALLERY, ST. CLEMENT DANES

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austerity of the City churches was rather the result of necessity than choice on the architect's part, St. Clement Danes, the next in order of building of the galleried churches, amply supplies it. The exterior, entirely of pearly Portland stone, the cupolas of the pavilions on either side the west door, and the still more elaborate cupola—known to us, alas! only from engravings—which stood over the south entrance, the mouldings of doorways and windows, prepare us in some measure for an interior which, for profusion of stucco ornament, has no equal in London.

Apart from its sumptuous decoration, the interior indicates considerable advance on St. Bride's, although but two years elapsed between the building of the two churches. The gallery no longer cuts the pillars in two, but rests upon wainscotted pilasters of its own, while the roof is upborne by a small order of Corinthian columns whose bases rest upon the book-desk of the gallery, a break in the gallery plinth marking the place where the support of the moulded pilasters below is transmitted to the column above.

Very sumptuous is the ceiling, especially in the apse and in the bay which converges towards it. This converging is, however, unpleasantly theatrical, and St. Clement's has more of grace than of dignity and little of devotional feeling, although a very beautiful modern east window for once forbids any regret for Wren's glazing.

St. James's, Piccadilly, which Wren built by command of his old friend Lord St. Albans, was so dedicated as a compliment to King James II. Consecrated in 1684, its details are the more interesting for Wren's recorded

satisfaction in his work, expressed thirty years later when Queen Anne's Fifty Churches Scheme was being considered.

The gallery is supported like that of St. Clement's, but the breaks in its front panels between pilasters and columns are far less pronounced, and the columns carry the roof, not upon impost blocks above their capitals, but upon an entablature which, running back from above the columns to the aisle walls, carries barrel-vaults at right angles with that of the nave. The entablatures are very finely carved, and the ornaments above the arches among the finest of Wren's designing.

Christ Church, Newgate Street, built in 1687, marks another stage in Wren's progress. Here there is one great order of columns so raised upon panelled bases that these bases of themselves are amply high to support the gallery which rests immediately upon their edge; the columns are engaged in the front panels for about a fourth of their total height. They support a cornice from which springs the groined ceiling of the nave, and from which a similar member runs at right angles to divide the flat ceiling above the gallery into square panels.

The construction of St. Andrew's, Holborn, recalls that of St. Clement's, except that there is no apse, and that the altar stands against the east wall of a shallow rectangular recess of width equal, save for the space of a pilaster on either side, to that of the nave.

For the building (in 1692) of the latest of his galleried churches, St. Andrew's by the Wardrobe, a smaller sum was available than had been at the architect's command for either of its five predecessors. He was therefore compelled

to return to the austerity of his earlier manner, and build it of brick without any of the graceful embellishments which make its near neighbour, St. Benet's, Paul's Wharf, so attractive.

It was no doubt economy that induced Wren to substitute here for the pillars which so agreeably surmount the square pilasters below the gallery in St. Clement's and other churches, another order of panelled pilasters, panelled, it is even said, in this case, with deal. Here the aisles have a groined roof, while the nave has the usual barrel-vault. The only relaxation from general severity is conferred by the stucco ornaments of wreaths and cherubs over the lunettes of each bay. The groining springs from brackets on the side walls.

The kind of cruciformity which Wren contrived to give the interior of St. Stephens's, Walbrook, by an ingenious disposal of the pillars, has met with an admiration altogether beyond its merits, and it is impossible to echo Professor Roger Smith's opinion that "by the simple device of returning the entablature back against the side and end walls, all the effect of nave, choir, and transept is produced"; but a somewhat similar device has resulted in the beautiful interiors of St. Martin's, Ludgate, and SS. Anne and Agnes, Aldersgate. In both these churches, pillars support an entablature which is returned to the outer walls of the church, so that the barrel-vaults which spring from this entablature intersect and form a central cross-vault, while the square roof spaces formed between the angle of the church and the entablature have (and this especially at SS. Anne and Agnes) moulded ceilings of remarkable beauty. The columns stand upon

high wainscotted bases of equal height with the wainscot of the walls.

Of the one-aisle churches of Wren's designing, St. Margaret Pattens, and St. Margaret's, Lothbury, are the most satisfactory. Both have very picturesque interiors, and, curiously, in neither case can the picturesqueness be entirely attributed to Wren. For in both these churches the aisle has been finished as a side-chapel, a use which had fallen out of favour at the time that they were built, a carelessness which resulted in the blank wall spaces which still disfigure the aisles of many country churches which retain traces of piscinæ and awmries to remind us that the spot now so disregarded was once a sanctuary.

St. Margaret's, Lothbury, has profited by the spoliation of other churches; it contains the screen formerly in All Hallows the Great, a screen which has no counterpart in the City except at St. Peter's, Cornhill. St. Margaret's is the finer of the two, but both seem too thin to attribute to Wren's designing, and have, for all their good workmanship, the stamp of a mere craftsman's unskilled disposal of details. St. Peter's is interesting as exhibiting, in its nave-arcade, the same anomalous interruption of architrave and frieze of which critics complain in St. Paul's Cathedral.

Consideration of that portion of his City churches most conspicuous and most characteristic—their spires, namely, and their towers—has been left to the last, because, in many cases, they were built long after the churches they adorn had been made ready for their impatient congregations. Bow Church in Cheapside stood spireless for ten years; St.

Photo by Herbert C. Ingram

PLATE 50.—DOORWAY, ST. MARGARET'S, LOTHBURY

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Photo by Cyril Ellis

PLATE 51.—STEEPLE OF ST. MARY-LE-BOW, CHEAPSIDE

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Michael's, Cornhill, waited nearly forty years for its Gothic tower ; St. Bride's steeple was built twenty years, that of Christ Church, fifteen years, that of St. Magnus, thirty years after their respective churches. And these are the finest samples of their kind.

Finest of all, perhaps, is that of Bow Church, built in the very heyday of Wren's life, and fortunate too in this, that it has not suffered as have its fellows at the hands of bungling restorers. "In geometrical relations of one part to another lies no small part of the subtle charm of Wren's best interiors," writes Professor Roger Smith. Does not the remark apply even more strongly to Wren's spires, and what could be conceivably more destructive of geometrical relations than a reduction of the total height by 8 feet, such as befell St. Bride's in the late eighteenth century, or more disfiguring than the spoliation of angle ornaments that is recorded to have taken place at Christ Church within the last few years?

The fine doorways in the north and west walls of Bow Church tower still retain the original oaken half-door sloping towards the centre, which allows light and air to penetrate the lobby within, reached by a flight of steps from the street, while the balcony above the north door was insisted upon by the parishioners because a similar feature in their old church had been found convenient for the witnessing of civic processions.

With the exception of the flanking pillars and sculptured tympana of the doorways, the lower portion of this tower is devoid of ornament. At a short distance above the entablature of the balconied window is a cantilever cornice, above which is another plain stage of masonry, which forms an

effective stylobate for the engaged Ionic pilasters, pairs of which flank the wide belfry windows. The transition from square to round in ground-plan is very cleverly masked at the stage which surmounts the entablature which, with a cornice of remarkably bold projection, is carried by the pilasters over the windows. At the angles of the crowning balustrade ornaments of startling originality stand upon bases which continue the lines of the pilasters below, and gradually draw these lines together to a space occupied by an urn. Behind the intervening balustrade is a plain cylindrical block of masonry bearing the same proportion to the peristyle above as the square block mentioned below does to the belfry stage. Within the peristyle, a cylindrical drum of ground-plan precisely similar to the topmost stage, leaves the columns free to bear the weight of another cornice and balustrade bound fast to the core of stone by arched buttresses. Above them again is a smaller peristyle surmounted by the obelisk which carries the vane. Analysed thus, what an absurd congeries of accumulated irrelevancies, and yet how charming the whole!

St. Bride's is certainly less imaginative, but no less graceful. The upper part of the design is merely one of precisely similar stages gradually shrinking in scale, while the lower part is, save for a segmental arch above the entablature of its pilasters, very like that of Bow Church.

Christ Church, Newgate Street, has been plundered of the vases which crowned its angles, and the stages diminish more suddenly than those of St. Bride's. The top stage of all has more charm than the rest, which, with unclothed angles, seem unduly square.

The tower and steeple of St. Magnus, London Bridge,

PLATE 52*a*.—ST. BRIDE'S, FLEET STREET

PLATE 52*b*.—CHRIST CHURCH, NEWGATE STREET

By permission of Messrs. Allenson

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has a cupola of lead, which structurally differentiates it from the others which in scale it resembles. Its lowest stage is a classical composition of four columns with pediment above, within which is the entrance to the church, curious volute-shaped buttresses connecting the sides of the tower with the attic storey, which surmounts the aisles of the church. The belfry stage much resembles that of Bow Church; above the entablature twin urns cap the pilasters below and, behind a balustrade of small round-headed arches, is an octagonal lantern with pilasters on tall bases at its angles. Above again are a leaden cupola and a slim lantern, the pointed cap of which carries the vane.

Before turning to the leaden spires and cupolas, we should note that three of the smaller stone steeples, which have several points of resemblance—the towers of St. Stephen's, Walbrook, and of St. James's, Garlickhithe—carry clusters of small columns, their entablatures breaking boldly at the angles and sustaining the stone ornaments, in designing which the architect showed such inexhaustible resource. The ground-plan of these two is square throughout, while that of St. Michael's, College Hill, is octagonal.

One of the most beautiful examples of Wren's manner of blending lead and Portland stone, a work bracketed by Mr. Blomfield with the steeples of St. Bride's and of Bow Church as among "the most perfect specimens of Renaissance architecture in England," is the spire of St. Margaret Pattens. And yet how simple the component parts of its decoration! The stone balustrade of the tower is adorned at the angles by stone obelisks, their bases hidden in acanthus, and, behind, the leaden spire, the low panels of its

sides converging, tapers to the crowning ball and weather-cock.

Of another type which may be defined as exhibiting a leaden cupola crowned by an obelisk one of the most attractive examples must have been that of St. Benet's, Gracechurch, but similar lanterns still survive at St. Margaret's, Lothbury, and, of a sterner sort, at St. Peter's, Cornhill. The former is the finer, for St. Peter's tower is of brick, which contrasts less happily with lead than Portland stone.

St. Swithin's spire is very original, for here, an octagonal base being required for the leaden cap, and the church tower being square, its angles are chamfered below the canted sides of the cornice beneath the balustrade.

The steeples of St. Martin's, Ludgate, SS. Augustine and Faith, and the needle-like spire of St. Vedast's, the surprising attenuation of which is achieved by concave stages shrinking gradually in plan, are designed, as has been said, as offsets to the dome's curve. St. Martin's is very much the most beautiful, and indeed the whole elevation of the church on Ludgate Hill shows a perfection of spacing singular even in the work of Wren. It must have been constantly under his eye as he travelled from his home in Scotland Yard to St. Paul's, and no doubt underwent as many changes during its building as did the great Cathedral.

However strongly persuaded we may be of the desirability of demolishing Wren's City churches in order to divert their endowments to necessitous parishes elsewhere—and unless we ignorantly form our estimate of their utility from the numbers of Sunday worshippers, we shall find our

PLATE 53*a*.– ST. MARGARET PATTENS

PLATE 53*b*.—ST. STEPHEN'S, WALBROOK

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theories increasingly difficult to justify—there can be no doubt as to the grave loss which London would suffer by the destruction of their towers and spires, buildings of a kind in which Wren stands without a rival.

When St. Antholin's was condemned, the public was more or less reassured by a whispered report that the tower would be spared. But it went the way of the rest, and London City has been deprived of a feature which redeemed many street vistas from utter ugliness. The compelling power of beauty is nowhere more strongly exemplified than in the ground-space which it is still allowed to occupy in the City of London.

There is a lyrical rapture in the rising of Wren's spires, which, apart from the bell-hanging purpose of their substructures, are mere beauty-snares, woven of limestone and lead, full of their poet's joy of living. There is amazing exuberance and spontaneity, for instance, in Bow Church steeple, which imparts something of its symmetry to the uneasy shop-fronts of Cheapside, and witnesses to the vitality of its builder two centuries ago, who, thwarted in his dearest designs, with scarcely an interval of leisure, yet loved his work and spent himself gladly in its service—how gladly the playful perfection of its poise suffices to tell.

The little parish church of Ingestre, in Staffordshire, has always been traditionally attributed to Wren, although its fame has hardly extended beyond its county. All documents, however, by which this claim could have been authenticated were destroyed in the fire of Ingestre Hall in 1882. It is therefore impossible to justify other than by the process of exclusion the claim of Ingestre to be of

Wren's building. If it be not, however, it furnishes ample proof that the great architect had a contemporary rival who left but this one work indeed behind him, but in it contrived to exhibit that mastery of proportion, that sure subordination of decorative detail to constructive excellence which characterised Wren.

The church is of the utmost simplicity of plan, consisting of nave, aisles, and rectangular chancel. The tower is above the west porch and lobby, and a careful measurement has detected in its side-elevation that slight tapering which endows tall structures with a special stability of which the eye takes note without discerning the means which have ensured its satisfaction. A plinth strengthens the lower part of the outside walls, but there is no decoration save that the keystones of the windows are covered with acanthus, and that, on the west wall of the tower, a stone festoon hangs below the belfry window, drooping on either side of the clock. The porch is flanked by pillars and crowned with a plain pediment, below which an inscription records the building of the church:

DEO OPT: MAX,

by Walter Chetwynd in 1676. Above the pediment is an escutcheon, wreaths falling on either side from the crowning volute.

Certain details of the interior recall St. Bride's, Fleet Street, but here the Doric columns of the arcade are not in couples but in clusters of four, and the impost-blocks are consequently square, not oblong, in ground-plan. The soffits of the arches are plain, but the keystones of their architraves carved with cherub-heads. Above runs a

cornice, and, above that, to each of the four bays is allotted an oval window in the clerestory. The nave roof is flat, that of the chancel barrel-vaulted, and both alike have stucco ornaments in high relief.

The chancel screen, crowned after the Erastian manner of its period with the royal arms, exhibits an engaged order of Corinthian pilasters with a complete entablature, a lesser order of pilasters supporting the archivolt of the three openings, of which that of the centre is just double the width of those on either side. Between the capitals of the pilasters left and right, heavy wreaths hang below the architrave to the modillion keystones of the arches, while cherub-heads fill the spandrels.

The pulpit and sounding-board are alike richly carved in the manner which I attribute rather to Wren's school of craftsmen than to Gibbons.

The marble font is vase-shaped, and its spiral carved cover terminates in the pine cone so dear to Wren.

A less consistent tradition attributes the Ashmolean Museum, Oxford, to Wren. Messrs. Belcher and Macartney consider the fact that an old print gives the name of the architect as T. Wood by no means conclusive, and, declaring the work of two men to be clearly distinguishable in the Ashmolean, credit Wren with the fine doorway.

CHAPTER XVI

GOTHIC

WREN's Gothic has been the object of much contemptuous disquisition—disquisition enlivened, for the most part, by references to those towers of Westminster Abbey in the building of which he had no concern.

That Gothic architecture, which he preferred to call "Saracenic," had no more charm for him than it had for other men of his time, is obvious from there being no mention of any work of that period in the long letter from Paris which chronicles his artistic impressions.

"Modern architects abroad," he says in his report on Salisbury, written in 1667, "use the better and Roman Art of Architecture," and in his account on old St. Paul's he wrote: "the Work was both ill designed and ill-built from the Beginning," proceeding to justify this denunciation as follows: "ill designed because the Architect gave not Butment enough to counterpoise and resist the Weight of the Roof from spreading the Walls." As we have seen, Wren considered stability the first necessity of construction, and the ruin of many Gothic cathedrals testifies to the unscientific principles upon which so much beauty was built up.

"It is by due Consideration of the Statick Principles and the right Poising of the Weights of the Butments to

PLATE 54.—ASHMOLEAN MUSEUM, OXFORD
By permission of Mr. Batsford, from Belcher and Macartney's "Later Renaissance in England"

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the Arches, that good Architecture depends," writes Wren again, and proceeds to show how this rule was violated by the monkish builders of Westminster Abbey.

That Wren's distaste for Gothic was not founded upon ignorance, that it did not prevent his comparing the building practice of the age that produced the Norman Chapel in the Tower with that of two centuries later, is sufficiently proved by his writings; but he was persuaded that the strictly logical building-system of the Romans was the source of all the best models, and the thorough investigations which he had occasion to carry out at old St. Paul's, Salisbury, Chichester, and Westminster only served to confirm this opinion.

The frequent dependence of Gothic arches upon iron ties is a fact not generally realised by the exclusive admirers of that style. If they notice these ties, they conceive of them as the cautious additions of modern antiquaries, whereas Mr. Lethaby in his *Westminster Abbey and Craftsmen* writes: "the whole construction was from the first laced up with iron." "No less than nineteen smiths," he continues, "were at one time engaged on the building"; and later he quotes a thirteenth-century statement of accounts which records the bringing from Gloucester of three tons of iron for the purpose of pinning. Wren, whose principal task at Salisbury, and one which he performed to admiration, was "the securing of the great Spire," speaks very highly of "the ingenuity of the builder who made good the absence of butresses by bracing the Walls together with many large bands of Iron within and without, keyed together with much Industry and Exactness," giving it moreover as his opinion that "there

are Divers other Braces concealed within the thickness of the Walls: and these are so essential to the Standing of the Work that if they were dissolved, the Spire would spread the Walls of the Tower, nor would it stand one minute. But this Way of tying Walls together with Iron instead of making them of that Substance and Form that they shall naturally poise themselves upon their Butment is against the Rules of good Architecture. Iron," he says elsewhere,[1] "is a good Caution, but the Architect should so poise his Work as if it were not necessary," a precept which he took care to observe on the only occasion on which he used it—*i.e.*, to bind together the dome of St. Paul's.

Nor was it only the vaulting system of the Gothic architects which he discovered to be insecure, for at Salisbury, which he "surveyed" in 1669, before the entire rebuilding of St. Paul's had been determined, and consequently before he had himself had occasion to prepare very great foundations, he discovered that those of Salisbury had not been laid with sufficient care, especially under the pillars. "That foundation which will bear a Wall," was his comment, "will not bear a Pillar, for Pillars thrust themselves into the Earth and force open the solid ground, if the Foundation under them be not broad." Any one who will be at the trouble of comparing the ground-plan[2] of St. Paul's crypt with that of the superstructure will see how Wren profited by the lesson of Salisbury in this matter.

It is amusing to read the scornful definition of Renaissance as "mere surface architecture" of that doughty

[1] In Tract II., printed in the Appendix to *Parentalia*.

[2] Illustrated in Longman's *Three Cathedrals of St. Paul*.

Photo by Valentine

PLATE 55.—TOM TOWER, CHRIST CHURCH, OXFORD

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champion of Gothic, Mr. Moore,[1] side by side with Wren's description of the shafts and clustered piers of Salisbury. "Of the Marble Shafts" he writes, "I cannot call them Pillars because they are so small and slender, and generally bear nothing, but are only added for Ornament to the Outside of the Great Pillars and decently fastened with Brass."

But as we know, Wren was, to use his own idiom, sometimes obliged to deviate "from a better style" when he conscientiously tried to avoid "modern Mixtures" to show his "own Inventions," and, among his earliest commissions, was one from Dr. John Fell, Dean of Christ Church, Oxford, to build a tower over Wolsey's Gateway. The strange picturesque Tom Tower is the result, and illustrates a manful attempt on the part of Wren to shake off classical tradition. It is difficult to discover the precise point at which Wren's work began, but probably not far above the archway, for the curve of the ogee window above it has not the true Gothic feeling, and is oddly enough repeated in the outline of the cupolas which cap the turrets on either side, turrets of what the architect called "nice embroidered work," with a jauntiness quite baroque. The canted sides of the octagonal superstructure, for all their cusped panelling, wear little caps of like fashion, and the dome that crowns the whole is shamelessly Renaissance although girt about with pinnacles in defiance of the architect's axiom: "no sort of Pinnacle is worthy enough to appear in the Air." It is not in the details of the work that Wren's genius is here made manifest, but in the proportions which make the crowning tower confer dignity

[1] *Character of Renaissance Architecture.* Macmillan, 1905.

without overpowering the lower buildings on either side. It is probably some geometrical secret here hidden which makes the tower, for all its unconvincing ornament, worthy the entrance of Oxford's proudest college.

Of the four Gothic towers which Wren built in the City of London, those of St. Mary Aldermary, St. Michael's, Cornhill (1722), St. Dunstan's in the East (1698), and St. Alban's, Wood Street (1685), he said himself that "they appear not ungraceful but ornamental to the east part of the City."

That of St. Dunstan's is the most famous, being of a form otherwise unknown in London, but fairly common in the north. Its spire is supported by flying buttresses springing from within each angle of the square top of the tower. It was just such an ingenuity as appealed to Wren, and it is said that during a great hurricane in London he exclaimed that whichever of his towers suffered, it would not be St. Dunstan's. As a matter of fact, it can appear fragile only to the ignorant, since its crowning feature offers less resistance to the wind than that of any other tower, and is consequently the most secure.

The other three towers are of the usual later Gothic type—square with corner pinnacles. St. Alban's is the most original, since St. Michael's is an adaptation from the famous tower of Magdalen, Oxford; and of that of St. Mary Aldermary, only the superstructure was added by Wren, since the lower part escaped the Fire comparatively uninjured, while the conditions of a legacy made it necessary that in rebuilding that church Wren should adhere as closely as possible to the original structure. The

result is a clumsy Tudor church with fan-vaulted roof without any imprint of the architect's personality except its proportions and the soundness of its construction.

In 1697 Wren was appointed chief director of the work of restoration at Westminster Abbey, and, in 1713, addressed to Bishop Atterbury of Rochester a statement of work already done there and of such as he considered essential that still remained to do.

The great rose-windows of the north transept he advised should be rebuilt of Portland stone, and he lived at all events to see the work undertaken (in 1719) which resulted in that transept being repaired as he had designed. So it remained until 1884, when another "restoration" swept all Wren's work away, and with it many ancient features. After Wren's restoration, writes Mr. Lethaby, "The smile of the old work shone, as it were, through an ungraceful veil, and the whole front still preserved a certain lightness and spring." It is very regrettable that no attempt was made towards preserving such old features as Wren, who was no sentimentalist, had preferred to retain.

To quote again from Mr. Lethaby: "The heightening of the tower was not Wren's work. About twelve years after his death Ralph[1] writes (1736), 'There is a rumour that the Dean and Chapter still design to raise the towers.'"

The ultimate execution of the work was probably due to John James, the architect of St. George's, Hanover Square.

[1] *New View of London.*

CHAPTER XVII

HAMPTON COURT—KENSINGTON PALACE—GREENWICH HOSPITAL

Upon the external wall of St. Paul's apse a royal monogram in stone commemorates the fact that the choir of the Cathedral was completed in the ninth year of William and Mary, but even more conspicuously are their names inscribed upon the south front of the royal residence which Wren built by their command upon land expressly cleared of Tudor buildings at Hampton Court.

Among the many English customs which roused William III.'s constitutional reticence to open expressions of dislike was the accessibility which residence at Whitehall had made habitual to Tudors and Stuarts; that the royal dining-table should, on constantly recurring state occasions, be a public spectacle for the citizens was as hateful to his natural reserve as any revival of it would be repugnant to the modern convention of dignity, and in March 1689, barely a month after the proclamation of their joint sovereignty, the King and Queen retired to that one of the available royal residences which they found many reasons for preferring. The prevailing damp and fog which are Hampton Court's most conspicuous disadvan-

tages, the surrounding flats, the tree-bordered canal, which in those days [1] came close up to the windows, all these features reminded William III. of the native-country, always so much nearer his heart than that one the burden of whose crown he had been called to share.

But while all that Hampton Court owed to nature was so sympathetic, Dutch William was careless of the historic sentiment that hung round the place, a sentiment which would have made an Englishman hesitate before dictating the destruction of a great part—the ultimate destruction of the whole was no doubt contemplated—of the old Tudor palace of Wolsey's building. William III. was only keenly conscious how greatly the discomfort of so old-fashioned a residence detracted from his enjoyment of a place "whose air," says Burnet, "agreed so well with him that he resolved to live the greater part of the year there. The Palace," continues the same historian, "was so very old built and irregular that a design was formed of raising new buildings," and that so promptly that, by April 1689, work had already begun under Sir Christopher Wren, in whose appointment as King's Surveyor the Revolution had wrought no change. *Parentalia*, with irritating reserve, does not even tell on which side Wren, returned member of Parliament for Plympton St. Maurice in Devonshire, in 1685, had voted upon the question of the deposing of James II. The same capricious chronicle does state, however, that the buildings eventually raised at Hampton

1 "A couple of hundred yards or so of the western end of the canal must have been filled up to make room for the present Great Fountain Garden on the east side of the Palace."—*History of Hampton Court Palace*, by Ernest Law. 1891.

Court were "a part only of the Surveyor's design for a new Palace there."

The portion of Wolsey's structure at once condemned to destruction was that known as Cloister Green Court, which, apart from a slight shifting northward, occupied exactly the site that the Fountain Court of Wren's building does to-day. Wren cleverly lengthened his east-front by a narrow strip of building of uniform design which he carried past such old buildings as were left standing north of his cloister on the east side of the Chapel Court, and it was the necessity for making the north walk of his cloister correspond to those middle doors of his façade which alone gave access to the garden, that obliged him to move the north and south walks of his cloister a pace or two northward of the spot upon which the Tudor cloister had stood. Before going further it is well to take note that Wren's work at Hampton Court comprises the colonnade on the south side of the Clock Court, the two great staircases known respectively as the King's and the Queen's, the four sides of the Fountain Court, the long east-front facing the great Fountain Garden, and the shorter south-front whose windows overlook the terrace and the Privy Garden below. It is best to consider what plans Wren actually carried out before referring to those further designs which proved abortive.

Differentiation is profitable in proportion as similarity is striking, yet many words have been wasted upon comparing Hampton Court with Versailles, although it is manifest that the ideals of Louis XIV. and William III. were more utterly diverse than is usual in those of contemporary princes. Louis XIV., morally unstable, a bigot,

Photo by Valentine

PLATE 56.—HAMPTON COURT PALACE

a voluptuary, delighting in flattery and display of every kind, regarding Versailles and the reckless expenditure it entailed as the symbol of his glory, was indifferent, it would seem, to those acute discomforts of daily life there of which his courtiers took careful note; William III., loving exclusion and detesting pomp, approved Wren's design, which resulted in a palace which, with its low long roof, its uneventful fenestration, its oaken wainscot and deep window seats, is merely an English gentleman's country-house on a large scale.

Built of glowing red brick with Portland stone coigns and dressings, the elevations of the two garden-fronts are at first sight closely similar, the chief difference being that whereas the long east-front has but a shallow central projecting portion in places, the shorter south one is slightly winged. A French architect would not have missed the opportunity thus afforded of variety on the sky line, but Wren made no modification in that monotony of roof which is so distinctively English.

Heedless of a charge of monotony, Wren, by a careful converging of ornament, avoided any lack of cohesion, and there is no straggling even in the long east-front. Three doors give access to the garden and occupy the space between the rusticated bases of the four semi-engaged columns which bear up the pediment in which the design centralises. It is a pity that trees should have been planted so near to this façade that no good view of it as a whole can be obtained. Like its fellow on the south, it has, for two-thirds of its extent, three rows of windows above those of the ground floor. First, the tall windows of

the state rooms, which already display that tendency to exaggeration of scale which culminated in those of Kensington Palace ; next, the round windows, which light what, in the days of its building, was called the half-storey, of which there are but eight a side, the series being interrupted in the five middle bays in order to allow more space for external decoration, and to admit of an extra height of ceiling in those rooms of greater dignity which are here situated. In the five centre bays, the round windows give place therefore to panels of stone, of which the upper half is richly sculptured, and which fill the wall-space between the capitals of the engaged pillars and flanking pilasters.

Critics[1] have lately drawn special attention to the ingenuity with which Wren has avoided that awkwardness in the window mouldings which would otherwise have resulted from the fact that the space between the engaged columns is slightly narrower than that between the pilasters. A small entablature which projects slightly beyond the mouldings on either side surmounts the tall windows of the first floor throughout, but, in the case of the three middle windows, the frieze of this member is given scroll-like ends which allow of the cornice mouldings being "returned in the space without touching the columns."

The four columns support an entablature surmounted by a pediment, which entablature breaks above the last column and stops short at the end pilaster to break again and give place to a narrow stone course which is carried the whole length of the building close to the top rim of

[1] Messrs. Belcher and Macartney, in their *Later Renaissance Architecture in England*, 1901.

Photo by Valentine

PLATE 57.—SOUTH FRONT, HAMPTON COURT PALACE

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the round windows, which do not consequently occupy the middle of the wall space allotted to them. Above this stone course or moulding, under the crowning balustrade, which, save for breaks above pillars and pilasters, exhibits no variety, are the square windows of the apartments formerly occupied by the court officials.

The south-front is something more ornate, although here the central design of four engaged columns supporting the entablature is not crowned by a pediment, a modification probably due less to a desire for variety than to an unwillingness on Wren's part to block out the light upon the sunny side of the Palace from the three top windows, as he had been compelled to do in order to confer the dignity of a pediment on his eastern elevation. Above the entablature, the frieze of which is inscribed

GVLIELMVS ET MARIA R.R.F.,

four pilasters, their panelled sides carved with drapery and flowers, bear up the cornice which, with the crowning balustrade, breaks above each pilaster, and thus form bases originally crowned with statues. These four bases were plundered by order of George IV. in the interest of Windsor, and it is much to be desired that the statues be replaced, thus redeeming the sky-line of this façade of Hampton Court from a justifiable charge of flatness.

The columns of this side are not fluted like those of the east, nor are they flanked by pilasters, but the series of round windows is here interrupted not only by the centre design, but again, in the three middle bays of the seven which divide the space, between the columns and the projecting wings. By this device, a pleasing variety is achieved with-

out sacrifice of symmetry. The window of the middle bay on either side is adorned with a pediment, above which a stone escutcheon exhibits the royal arms supported by *amorini* upholding garlands, while the wall-space above the windows right and left is hung with festoons such as deck the exteriors of St. Benet's, Paul's Wharf, and the Great Schoolroom at Winchester.

Three sides of the Fountain Court, north, south, and east, are identical save for slight differences in window mouldings, their fenestration necessarily corresponding with that of the garden-fronts, while an open cloister forms their ground-floor, a cloister whose chief defect, the inner segmental arch which partly blocks the semi-circular arches of the arcade, and whose pitch obtains throughout the cloister, has been attributed by Stephen Wren in *Parentalia* to William III.'s interference.[1] Since, however, it was by the same undesirable method that Wren had secured greater height for his first floor ten years earlier at Trinity, Cambridge, it is best to accept it as one of those singular lapses of judgment from which even great artists are not immune, and which regard for them should lead us to regret rather than to defend.

Nor is this the only criticism provoked by the Fountain Court. The whole scheme of the elevation is clumsily over-crowded. The sills of the first floor windows rest upon the keystones of the arches below, while their crowning pediments actually touch a stone ornament which hangs from the elaborately framed half-storey windows.

1 "King William," he writes, "was pleased to excuse the Surveyor for not raising the Cloysters under the Apartments higher; which were executed in that Manner according to his express Orders."

PLATE 58.—FOUNTAIN COURT, HAMPTON COURT

Photo by Valentine

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It would seem, indeed, as though that placing of the round windows above the centre of the wall space in the south and east façades denoted that the architect had originally intended pediments above his tall windows there also.

The south side of the Fountain Court consists but of one storey above the cloister—a storey entirely taken up by the Communication Gallery linking the King's apartments with the Queen's—and, above its balustrade which is decorated with vases at intervals, the crenelated Tudor walls are visible. It was no doubt left lower than the rest on account of the gloom which would have prevailed had so small an enclosure been surrounded on all four sides by three-storeyed buildings.

Before the interior of the state apartments, the colonnade of the Clock Court remains to be considered. It is just such a classic screen as Wren delighted in building to shut out the disturbing irregularities of mediæval architects. It differs from his Greenwich colonnade chiefly in this, that here the twin columns are set less closely together. The entablature is of great boldness, and its centre admirably accentuated by escutcheons above the middle columns.

Associated with Wren in his work at Hampton Court were the same artists who were assisting him at St. Paul's. Grinling Gibbons helped to decorate the old Tudor Water Gallery (which Wren fitted up as a temporary residence for the Queen until the suite of rooms planned for her in the Palace should be ready for occupation), hung the walls of the King's apartment with lime-wood trophies and festoons, and is credited also with the stone wreaths of the

east front and the keystones of the cloister arches of the Fountain Court. Tijou forged banisters, balconies, and grilles for the Palace, and, for its plaisance, the magnificent series of iron screens recently replaced at the river edge of the Privy Garden; while Gabriel Cibber, between 1694 and 1696, carved "The Triumph of Hercules over Envy" in the pediment of the east-front and the escutcheons and *amorini* of the south.

In 1694 Queen Mary died of smallpox at Kensington, and, for a while, King William's grief made him lose interest in the progress of the Palace at Hampton Court in which he had hoped to spend many days with one who shared his love of the place and had appreciated as he did the opportunity it afforded of escape from publicity. In 1698, however, a sudden emergency, the destruction by fire of the old palace of Whitehall, obliged him to hasten the completion of a new residence.

During the King's interval of grief-stricken indifference, Wren probably gave much of his time to St. Paul's, the sumptuously designed choir fittings of which could not however, be completed for the solemn opening of December 1697. In addition to this and many lesser undertakings, 1696 saw the beginning of his great work at Greenwich Hospital.

In deference to the King's wishes, the works at Hampton Court were pushed forward, and by April 28, 1699, less than a year and a half after the burning of Whitehall, Wren submitted an estimate for "finishing" part of Hampton Court to the King, who, after an inspection of the work on the following May 15, bade the execution of the further designs proceed without delay.

At the very beginning of Wren's building activity at Hampton Court, the Comptroller of the Works, William Talman, himself an architect of some skill, reported that much of the masonry already erected was unsound. Inquiry was forthwith instituted, and Comptroller and Surveyor brought face to face before the Lords of the Treasury.

Talman repeated his charge, specially stating "that the twenty-four peers next the Garden" (by which Mr Ernest Law suggests[1] that the blocks of masonry between the windows of the south front must be intended) were "all crackt," so that a man might "put his fingers in." On the other hand, a witness friendly to Sir Christopher Wren positively asserted that, of the blocks of stone of which the piers were built up, but four were cracked, and that but by a hair's breadth. "The peers," persisted Talman, "are all crackt, and crampt with iron to keep them together." To which Wren: "What was done for greater caution ought not to be maliciously interpreted."

Finally the Lords "resolved to appoint indifferent persons to view the same and see if the building will stand or no."

The report appears to have been favourable to Wren; work was resumed, and, for the space of nine years, there is no record of further friction between Surveyor and Comptroller.

That Talman, however, still nourished spite is apparent from an endeavour he made in 1699 to prove that Wren had been guilty of unkindness to a nephew to whom he had promised assistance and then withheld it.

[1] *History of Hampton Court Palace.*

Among the Treasury Papers is a letter of Wren's fully justifying himself without any counter-attack on his accuser.

The internal fittings of the rooms prepared by Wren for William and Mary at Hampton Court are but another example of how much the austerity which often marks his work was a matter of principle, rather than of temperament. No rooms of nobler proportions than these were ever built, no wall spaces were ever more skilfully disposed, and, in many cases, we see them uninjured by modern adaptations. In the King's Gallery we find, in the panelling, the same interruptions of architrave and frieze as in the internal arcade of St. Paul's, while the deep doorways and broad window-seats, the designing of the chimney-pieces—now lengthways the wall of the rooms, now, in smaller apartments, crossways with receding shelves for china above them—are a few of the features which abound at Hampton Court, and make it the Mecca of all who care for English house-decoration at its best period.

Visitors to Hampton Court cannot fail to be struck by the lack of any worthy entrance to the State Apartments built by Sir Christopher Wren, but a plan of his designing, dated 1699, and now in the possession of H.M. Office of Works, amply proves that the architect had intended a northern approach of great magnificence. Taking the Great Hall for centre, he intended to throw out great wings with colonnades at a distance of half its length east and west of it, and that access to the hall at its north side should be by flights of steps. The chestnut avenue of Bushey Park planted to line the approach is all that has resulted.

The impracticability of transacting state business at such a distance from Whitehall manifested itself so clearly that, by the summer of 1687, William III. had bought of Lord Nottingham for 18,000 guineas his house situate in what was then the remote but none the less accessible suburb of Kensington, and Sir Christopher Wren was at once commanded to prepare it for the King's and Queen's residence.

According to Faulkner's *History of Kensington*, there was little alteration of ground-plan, and the buildings round the courtyard are part of the original structure. They bear, however, so remarkable a likeness to Wren's work at the Temple and elsewhere that it is impossible not to consider them as in some way remodelled and brought into harmony with his work of the south front, which, from the basement upwards, is all his. Evelyn also in his Diary records a visit to it; on February 25, 1690, he writes: "I went to Kensington, which King William had bought of Lord Nottingham, and altered but was yet a patched building," and again six years later Evelyn writes: "I went to see the King's House at Kensington. It is very noble but not great."

Many will deny that Kensington has externally any claim to nobility, and certainly, in this case, Wren has sacrificed too much to sunshine, for the size of the windows of the King's Gallery disfigures his south-front. Still, as Coventry Patmore wrote: "Sir Christopher Wren could not build a common brick house without imposing his own character upon it," and Kensington is no exception to this, although the royal builder's parsimony compelled the architect to sacrifice much external dignity

in order the better to beautify the interior of the State Apartments.

The doorways have charm, but it is of that intimate kind little adapted to palaces, and indeed Kensington is no palace except in name. The total effect, too, was much injured by the interpolation, under George I., of a pompous block of William Kent's building in the very middle of Wren's work. The tall portion so disfiguring the proportions of the east front is Kent's; equally unattractive, albeit lavishly decorated, are the rooms within.

The public entrance is now at the north-east corner by two doors, of which that in the east wall is very charming with the royal cipher carved above the door and a brick niche above. The Queen's staircase which leads to the state rooms is a masterpiece of homely, well-proportioned designing, its wall entirely wainscotted and its banister also of oak. Queen Mary's gallery, with its two fireplaces, deep window-seats, and modillion-borne cornice, has undergone no structural alteration, and retains its panelling. So does Queen Anne's dining-room, the cornice of which should be compared with that of Queen Mary's gallery. Queen Caroline's drawing-room was much injured by Kent, but its window commands a fine view of the Clock Court, of which the south and east sides are indubitably of Wren's building. The sunny King's gallery retains its original doorways, but its wainscot has gone, and a flat, gaudily painted false ceiling has been inserted in place of the plain ceiling gently arching from behind the cornice which formerly roofed this room in the same manner as the rest of the Wren-designed suite. The window-sashes of

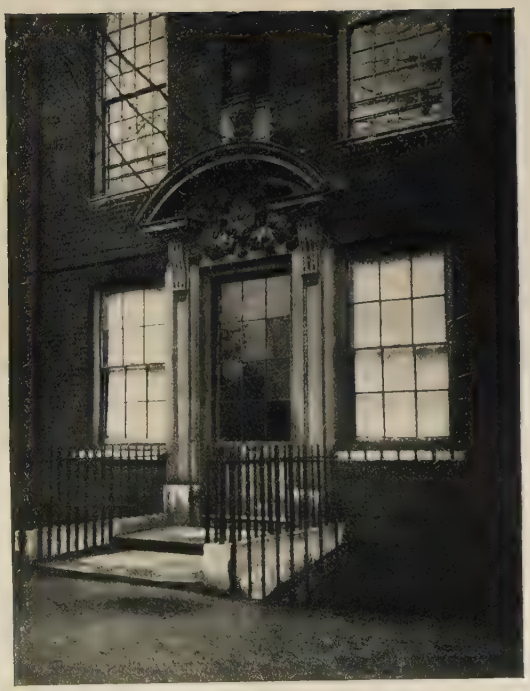

Photo by A. E. Aspinall

PLATE 59.—DOORWAY, KENSINGTON PALACE

To face p. 272

PLATE 60.—ORANGERY, KENSINGTON PALACE

To face p. 272

PLATE 61.—ORANGERY, KENSINGTON PALACE

Photo by Cyril Ellis

PLATE 62.—ALCOVE, KENSINGTON GARDENS

By permission of Mr. Batsford, from Belcher and Macartney's "Later Renaissance in England"

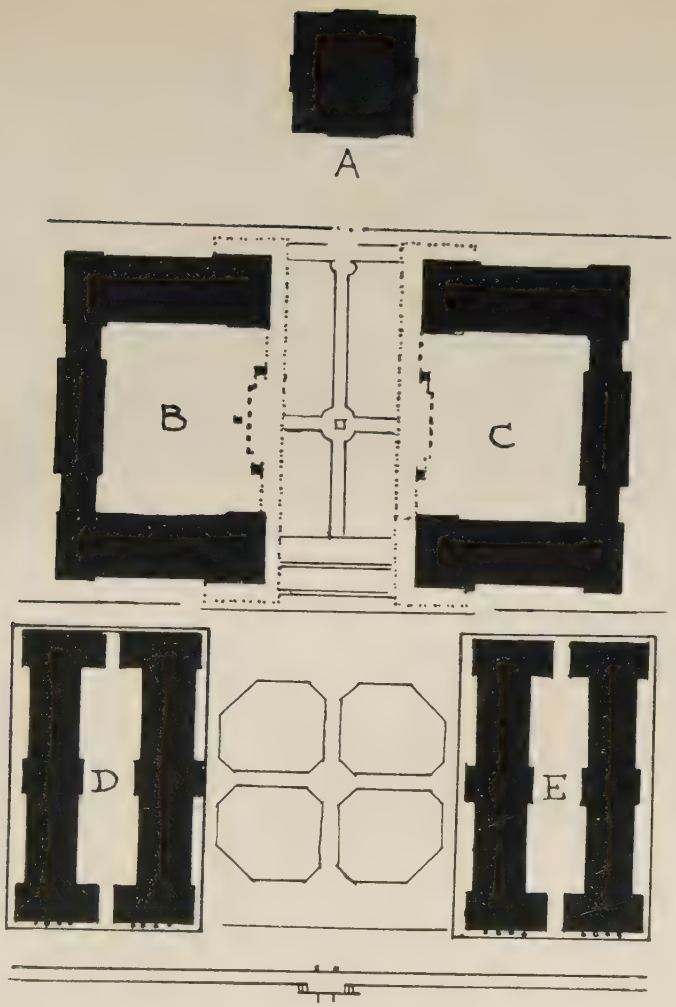

PLATE 63.—GROUND-PLAN OF GREENWICH HOSPITAL

A. Queen's House. *B.* Queen Mary's Quarter. *C.* King William's Quarter. *D.* Queen Anne's Quarter. *E.* King Charles II.'s Quarter

Note.—Owing to an oversight, the distance between *A* and the roadway between *B* and *C* has been represented as but half what it actually is.—L. M.

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Queen Mary's gallery are original, but have elsewhere been replaced by large panes and thin sashes, which are least of all desirable where the windows are already so large. The doorways and cornices of Kensington Palace are in their perfect proportion comparable with the sumptuous ones of Hampton Court.

The King's grand staircase, for all Kent's tampering, is for the most part of Wren's construction. The iron banister with oaken hand-rail, the low black marble treads of the stair, the black and white paving of the hall and landings—in all these we discern Wren's taste.

But more striking than any part of the actual Palace is the Banqueting Hall or Orangery which Wren built in the garden for Queen Anne in 1704 at the cost of £2599. Narrowly escaping destruction in the early nineteenth century, the garden below its terrace until recently a mere confusion of potting sheds and rubbish heaps, it now meets the appreciation it deserves as one of Wren's very finest works. Externally of red and yellow brick, it is the internal spacing, the delicate mouldings of the alcoves at either end of the great hall, the reserved ornament which admits but of festoons above the end arches, that constitute its beauty.

While building the Observatory upon the Castle Hill at Greenwich, in 1675, Wren must often have looked regretfully down upon the magnificent river-site upon which the old palace, the birthplace of Queen Elizabeth, had once stood. and upon which Inigo Jones had been commissioned by Charles I. to erect a royal residence. Owing to the outbreak of civil war, no part of the great archi-

tect's scheme had been completed save the Queen's House, built at some distance inland expressly for Henrietta Maria, and the fragment of a palace by the shore which John Webb had built, under the surveyorship of Sir John Denham, in 1661–6, from extant designs of Inigo Jones. That this portion was, in some sort, complete in itself, although occupying but a small portion of the land over which it had originally been intended to build, is evident, since it is recorded that there, for a short while, Charles II. held his court.

Very soon after her accession, Queen Mary II. seems to have formed a scheme, fostered no doubt by John Evelyn and the ever-benevolent Sir Stephen Fox, of rivalling her father's beneficence and founding a hospital for disabled seamen on the same lines as that for invalid soldiers at Chelsea. With the buildings at Hampton Court and Kensington to superintend, the King and Queen had no mind to erect another palace upon the royal property of Greenwich, while its position at the entrance of the Port of London made it peculiarly appropriate to a patriotic purpose.

Hawksmoor, in a report written by order of Parliament in 1778, wrote:

"Her Majesty Queen Mary, the foundress of the Marine Hospital, enjoined Sir Christopher Wren to build the Fabrick with great magnificence . . . and being ever solicitous for the prosecution of the design had several times honoured Greenwich with her personal views of the building erected by King Charles II. as part of his palace, and likewise of that built by Mr. Inigo Jones, called the

Queen's house. . . . She was unwilling to demolish either, as was proposed by some.[1] This occasioned the keeping of an approach from the Thames quite up to the Queen's House that Her Majesty might have an access to that house by water as by land. . . .

"Her Majesty's absolute determination to preserve the wing built by her uncle King Charles II, the Queen's House and the approach of it . . . naturally drew on the disposition of the buildings, as they are now placed and situated."

It is impossible not to regret that Queen Mary's sentimental unwillingness to destroy the house built by her grandmother or even to allow the river-view to be blocked out from its windows should have compelled Wren so to subordinate his own work as to result in his building an approach of great magnificence to an edifice but little imposing. In justice to the Queen, it must be borne in mind that, according to Hawksmoor, she had intended to add pavilions to the Queen's House according to Inigo Jones's design, but that her untimely death frustrated any such plan; and moreover, whatever of its general meanness may be laid to the charge of modern alteration, it is hard to see how the mere addition of pavilions, by which some kind of tower or turret must be intended, could so have magnified the scale of the Queen's House as to justify the splendour of Wren's colonnade. The portfolio of Wren's Greenwich designs in Sir John Soane's Museum contains another proof that he

1 This probably refers to Sir Christopher Wren's earlier designs, now in Sir John Soane's Museum,

had not intended that his range of buildings should be brought to so poor a conclusion. The river-side elevation is in these designs retained and repeated on the other side of the quadrangle as it is to-day, but, behind it, a long range carried inland at right angles sweeps round finally to meet its fellow beneath a central cupola.

In deference to the Queen's wishes, this plan was superseded by one which shows the buildings almost exactly as ultimately completed.

Taking the wide path which led to the Queen's House as a centre, and appreciating the beauty of the Jones-Webb elevations—both that of the river-front and that one of which probably but a fragment was standing, which ran inland at right angles—Wren built another range opposite to it of identical design at such a distance that the middle of the intervening space exactly tallied with the centre of the Queen's House. So far his share of the designing of Greenwich Hospital was but a skilful disposal of ground-plan and a generosity which allowed of his adopting another man's design without any attempt to add to it.

The square space was now enclosed on three sides: by the river and by the east and west section of the blocks known respectively as King Charles's and Queen Anne's quarters, but, inland, some convergence was necessary, since the scheme must culminate on so small a frontage as that of the Queen's House. Wren accordingly drew the ground-plans of the two ranges of buildings inland known respectively as King William's and Queen Mary's quarters, closer together, and designed a colonnade of coupled Doric columns to line both sides of the way northward. These

Photo by Cyril Ellis

PLATE 61.—GREENWICH HOSPITAL, ANGLE OF QUEEN MARY'S QUARTER

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colonnades he returned at the angles, thus partly enclosing the great square on the land side, and above the projecting portion of his new building he set cupolas right and left, which, seen from the Thames, appear to form part of the great square from which a wide roadway actually divides them.

The Queen's House stands on rising ground, and of this one advantage Wren availed himself in masterly fashion by setting the south returns of his colonnades upon a tall stylobate, raising the level of the space between his new buildings and accentuating ascent by two short flights of steps of the width of the whole space.

The twin domes of Greenwich are among the finest of Wren's works, admirable alike for beauty of curve and the proportion they bear to the colonnade below. Buttressed by clusters of columns at four points, the drums rise from behind an entablature which breaks boldly at the corners.

The Painted Hall in King William's quarter, which was intended to serve as pensioners' dining hall, is (save for certain portions of the Governor's private apartments in King Charles's quarter) the only unaltered Greenwich interior, for the Chapel which occupies the corresponding portion of Queen Mary's quarter was destroyed by fire in the early part of the nineteenth century, and, at the rebuilding, was decorated in the classical manner of the First Empire.

The entrance to the Painted Hall under the colonnade admits to a vestibule crowned by the dome, which is internally upborne upon the crowns of four tall arches and pendentives. The arches open into recesses right and left, and into the hall, round the walls of which an

entablature is carried by engaged pilasters. This same entablature is carried in a curious fashion across the tall arches of the vestibule, which is below the level of the hall, and the height of the communicating stairs is cleverly adjusted to the tall base of the columns which flank the entrance. At the opposite end of the hall, a wide segmental arch opens into a smaller apartment, which, being raised seven steps above the floor of the hall, was no doubt intended to serve as a daïs on great occasions.

But Wren's work at Greenwich was not completed by the colonnades and domes. There is a model in the Naval Museum—such a wooden model as Wren's deft ingenuity loved to construct—which shows us (a fact which the Soane Museum drawings tend to confirm) that at first, side by side with the Jones-Webb river elevation and its replica of Wren's building on the opposite side of the square, were other buildings destitute of any architectural dignity, intended no doubt for the domestic offices of the Hospital, kitchen, wash-houses, &c. These were known as the "base buildings," and public opinion not unjustly denounced them as mean. So it came about that Wren was empowered to build there a frontage of equal dignity to that of their fellows, and his love of uniformity resulted in the river-front of Greenwich exhibiting Inigo Jones's design four times over.

The unaltered portions of the Governor's apartments embrace a wainscotted dining-room with the bold projecting cornice and coved ceiling (features which we find again in the Governor's state-room at Chelsea, and among the few remaining fragments of Wren's building at St. James's Palace), and an imposing staircase, with oak banisters and hand-rail, which is continued to the top storey of the house.

CHAPTER XVIII

DECLINING YEARS AND DEATH

Despite poignant regret for the frustration of his plan for rebuilding London—a regret which his incessant labours in the City kept painfully alive—and further professional disappointments, of which the failure of Charles II. to proceed with the Windsor Mausoleum or the Royal Palace at Winchester were the keenest, Wren's career, until the time of his great work of construction and rearrangement at Greenwich, had been exceptionally free from the harassing persecution of rival contemporaries. His schoolfellows, his brother-undergraduates, his colleagues of the Royal Society, had ever rejoiced in the success of one so unassuming and genial, while his reputation for integrity and disinterestedness gave little handle to malice. Had he not fixed his own salary as architect of St. Paul's at the low rate of £200 a year, and been content with but an additional £100 for the pains of rebuilding the City churches? Had he not, in one year, contributed a fourth part of his poor wage to the building-fund of the Cathedral, and remitted the fee due to him from the parishioners of St. Clement Danes on hearing that they were near the end of their resources? Had not his contribution to Greenwich Hospital

been a generous refusal to accept any payment for his arduous share in promoting that scheme of national benevolence?

Talman's jealousy had indeed hampered him during the building of Hampton Court, but it had done him no serious mischief, and the Queen's favour had continued unabated.[1]

But this immunity from attack ended, and, in 1696, he received an unexpected blow at the hands of Parliament, a blow which initiated the persecution which embittered his last years.

The ignorant malevolence of certain persons among the St. Paul's Commissioners professed surprise at what seemed to them the slow progress of the work of rebuilding, and led to the insertion of a clause in the Act for completing St. Paul's which decreed "the suspension of a moiety of the Surveyor's salary until the said Church should be finished; thereby the better to encourage him to finish the same work with the utmost diligence and expedition."

The use of the word "encourage" in the sense of "incite," now obsolete, adds a touch of satire which was not intended by the dull-witted framers of the clause, but their action amounted to a public charge of dilatoriness which his detractors did not hesitate to attribute to a desire, by the prolonging of his tenure of office, to enjoy the longer its emoluments.

Wren bore the implied insult in silence, and uttered no public protest against the unjust withholding of half his

[1] A fine cabinet, the property of his descendant, Mrs. Pigott, presented to Sir Christopher by Queen Anne, is evidence of this.

salary until the year 1710, which saw his work at Greenwich complete and the topmost stone laid by the architect's son Christopher, attended by Mr. Strong, the master-mason, upon the lantern of St. Paul's dome.

On February 13, 1710, Sir Christopher presented the following "humble petition to the Queen's most excellent Majesty":

"The most humble petition of Sir Christopher Wren Sheweth;

"That there being a Clause in an Act of Parliament which suspends a moiety of your petitioner's salary at St. Paul's till the building be finished, and being obstructed in his measures for completing the same by the arbitrary proceedings of some of the Commissioners for that fabric;

"Your petitioner most humbly beseeches your Majesty to interpose your Royal Authority so as that he may be suffered to finish the said building in such manner and offer such designs as shall be approved by your Majesty, or such persons as your Majesty shall think fit to appoint for that purpose.

"And your petitioner will ever pray etc.

"CHRISTOPHER WREN.

"*February* 13, 1710."

The petition was laid before the Commissioners on the following 30th of April, and they issued a report full alike of innuendoes against Wren and of disquisitions upon their own virtue.

They denied ever having considered Wren's salary too great, or that they had ever done anything to obstruct

his receiving it in full ; for the withholding of the moiety they declared Parliament alone responsible, and protested that it had been their constant endeavour "to hasten the finishing of the work." Stopping short of directly accusing Wren of embezzlement, they hinted at the great corruption of his subordinates. They expressed much surprise that Wren, himself a Commissioner, should accuse his colleagues of "arbitrary proceedings," and declared that their only desire had been how best to meet the Queen's wishes.

After admitting that they had occasionally differed in opinion from Wren, they asserted that this was specially the case over an iron fence which he desired to have made of wrought iron while his brother Commissioners had voted for cast iron as being "ten times as durable as the other." Unwitting, it seems, that by this rash statement they had displayed a crass ignorance, they went on to say that, since a good part of the fence was already set up, it could not be difficult to recognise their judgment as having proved superior to Wren's in this matter. Furthermore they complained that the architect had put obstacles in the way of the persons employed in the fixing of this fence, and had, without so much as consulting them, set up "a poor mean rail disliked by everybody on each side of the great ascent of the west end." Jennings, the master carpenter, one of the architect's favourite workmen, had made away with, to sell for his own profit, much material charged upon St. Paul's accounts, by which means he was making fifteen hundred a year.

They desired that Mr. Jennings be prosecuted for these

"frauds and abuses," in order that, upon public trial, their good faith might be vindicated at the expense of Wren's.

Finally they observed that, in making his appeal, Wren had reflected upon a Commission composed of "two archbishops, several bishops, the Lord Mayor, etc. etc., persons whose known honour, justice and integrity should have kept Sir Christopher from making any reflection upon them."

Wren next appealed:

"To His Grace the Lord Archbishop of Canterbury, and the Bishop of London.

"May it please your Lordships,

"That I humbly lay before you the state of the suspension of a moiety of my salary (as surveyor of S. Paul's Cathedral) by a Clause in an act of parliament, which is thus:—

"The design of the Parliament in granting the coal duty for the said cathedral at that time being to have the building completed with all possible speed, they did, to encourage and oblige the Surveyor's diligence in carrying on the work, suspend half of his allowance, till all should be done. Whereby I humbly conceive it may justly from thence be implied that they thought the building, and everything belonging to it, was wholly under my management and direction, and that it was in my power to hasten or protract it. How far it has been so your Lordships know: as also how far I have been limited and restrained. However it has pleased God so to bless my sincere endeavours, as that I have brought the building to a conclusion,

so far as is in my power, and I think nothing can be said now to remain unperfected, but the iron fence round the Church, and painting the cupola, the directing of which is taken out of my hands, and therefore I hope that I am neither answerable for them, nor that the said suspending clause can, or ought to, affect me any further on that account. As for painting the cupola, your Lordships know it has been long under consideration: that I have no power left me concerning it, and that it is not resolved in what manner to do it, or whether at all. And as for the iron fence it is so remarkable and fresh in my memory, by whose influence and importunity it was wrested from me, and the doing it carried in a way that I may venture to say will ever be condemned. I have just this to observe further, that your lordships had no hand in it: and consequently ought not to share in the blame that may attend it.

"This, then, being the case, and nothing left that I think can keep the said clause of suspension any longer in force against me,

"I most humbly pray your lordships to grant your warrant for paying me what is due to me on that article, which was £1300 last Michaelmas. And if for the future my advice and assistance be required in anything about the said cathedral, I will be ready to give the same, and to leave the consideration of it to your lordships: being, with all submission,

"My Lords,

"Your lordships most obedient,

"and most faithful humble servant,

"CHRISTOPHER WREN."

The matter was laid before the Attorney-General, Lord Northey, who, in January 1711, gave it as his opinion that Sir Christopher's case was very hard, but that, as Parliament had enacted that half his salary be held back until St. Paul's was completed, it was not in the Commissioners' power to order the moiety be paid back until the condition of payment was fulfilled—*i.e.*, until St. Paul's was pronounced finished.

The actual structure was, however, complete, and Wren made a third appeal, this time "to the Honourable the Commons of Great Britain in Parliament assembled."

"The humble petition of Sir Christopher Wren,

"Sheweth,

"That in the act of Parliament of 8 and 9 of the late King William for completing the building and adorning the cathedral-church of St. Paul's, London, there being a clause for suspending a moiety of the surveyor's salary till the said church should be finished, thereby the better to encourage him to finish the same with the utmost diligence and expedition, your petitioner humbly conceives, that the parliament, by putting the surveyor under such obligation, did apprehend that the building and every thing belonging to it, was wholly under his management and direction, and that it was in his power to hasten or protract it.

"That your petitioner having been surveyor of the said cathedral church from the beginning of its rebuilding and the same (as may be seen) being now completed, excepting the iron fence, some ornaments undetermined, and some other matters which some of the commissioners for the fabric have so interposed in, as that his measures for com-

pleting the same are wholly overruled and frustrated: and thereby he is under this hardship as neither to be paid the salary that is due to him, nor suffered to perfect the work that is made the condition of it.

"Your petitioner, therefore, most humbly prays your honours to grant him such relief in the premises as to your great wisdom and justice shall seem meet.

"And your petitioner will ever pray, etc.

"CHRISTOPHER WREN."

"Whereupon," writes Sir Christopher himself in a tract published in his own defence two years later, "that Honourable and August Assembly so considered his case and were so well satisfied with the Justice and Reasonableness of it as to declare the Church to be finished as far as was required to be done and performed by him as Surveyor General. And it was accordingly enacted that the suspended salary should be paid him on or before the 25 of December, 1711."

Among other results of the scattering of the citizens that ensued upon the Fire of London was a considerable extension of the residential radius of the metropolis, and, in 1712, a Bill was passed "for building and endowing fifty new churches in London and Westminster."[1] It is con-

[1] According to Maitland's *History of London* (1756), only ten of the fifty were built. [St. Mary-le-Strand (Gibbs); St. Anne's, Limehouse (Hawksmoor); Christ Church, Spitalfields (Hawksmoor); St. George's-in-the-East (Hawksmoor); St. George's, Bloomsbury (Hawksmoor); St. George's, Queen Square; St. Leonard's, Shoreditch (Dance); St. John's, Westminster (Archer, pupil of Vanbrugh); St. Luke's, Old Street; St. John's, Horsleydown.]

clusive proof that Wren still stood high in royal favour that he was appointed upon the Commission, and he addressed a letter to one of his brother commissioners in which he stated his general views on church building, and also related the method by which sufficient land had been acquired round St. Paul's to ensure it the isolation which so seriously diminishes the risk of fire. This letter is printed complete in the Appendix. None of the churches in which this Act resulted were designed by Wren himself.

In 1712 the rumours hinted at by the Commissioners in their reply to the Queen's inquiry took more definite shape in a violent diatribe of pamphlet form, bearing for its title an adaptation of a phrase from the report above quoted, "Frauds and Abuses at S. Pauls." Private spite loves to parade as public spirit, and this tract professed to be inspired by a desire to forward the interests of the parishioners of St. Mary Woolnoth, who had vainly asked that the expenses incurred by a rebuilding of their church should be defrayed out of the surplus of the moneys provided for the rebuilding of St. Paul's.

It was obvious that, although the actual fabric of the Cathedral was complete, funds were still urgently necessary for internal fittings, but the writer of the "Letter to a Member of Parliament," as the sub-title ran, ignored this, and asserted that if the Cathedral were not complete, it was "the Fault of Persons belonging to it."

Further on he accuses Sir Christopher Wren by name of doctoring his estimates to his own advantage and that of his friends, and airs the grievances of the dwellers round the Cathedral precincts, who complained of hoardings and

scaffoldings not yet cleared away, of the iron fence not being yet placed in position, and, further, that the walls were still uncrowned by the stone rail or balustrade decreed by the Commissioners.

Finally, a circumstantial indictment was drawn up against Jennings, the carpenter, who was further stated to have been dismissed from his post by a court of inquiry, and retained in it in a high-handed manner by Sir Christopher Wren.

It was probably this libellous attack on his faithful workman that exasperated Wren to the point of publishing in 1713 a reply to all the charges contained in this scurrilous tract, and appending to his pamphlet of justification a detailed statement of the revenues and expenditure of St. Paul's Building Fund. But even before this vindication appeared, there was published an enthusiastic eulogy of Wren and a stern denunciation of his enemies in an anonymous tract called "Facts against Scandal." In answer to this, and also to Wren's own defence, there appeared, under the title of "A Continuation of Frauds and Abuses at St. Paul's," a pamphlet which contained, among other attacks on Wren, one contained in a letter from a workman formerly employed at St. Paul's and subsequently dismissed. Wren's anonymous defender was not slow to renew the fray, and at once wrote a second part of "Facts against Scandal," giving ample reason for the discontented labourer's dismissal, witnessed by Wren's own hand.

This seems to have been an unanswerable vindication, and no more tracts appeared.

That already the treatment he was receiving had roused

some to indignation is evident from an essay on "Modesty," which appeared in the *Tatler* on August 9, 1709, in which Steele—or, as some say, Addison—relates how he "had the honour to visit some ladies where the subject of the conversation was 'modesty,' which they commended as a quality quite as becoming in men as in women. I," says the writer, "took the liberty to say it might be as beautiful in our behaviour as in theirs, yet it could not be said it was as successful in life, for . . . it was the greatest obstacle to us both in love and business. Modesty in men is composed of a right judgment of what is proper for them to attempt. From hence it is that a discreet man is always a modest one. . . .

" . . . A French author says very justly that modesty is to the other virtues in a man what shade in a picture is to the parts of the thing represented. This shade must be very justly applied, for, if there be too much, it hides our good qualities, instead of showing them to advantage.

"Nestor in Athens was an unhappy instance of this truth, for he was not only in his profession the greatest man of that age, but had given more proofs of it than any other man ever did; yet for want of that natural freedom and audacity which is necessary in commerce with men, his personal modesty overthrew all his public actions. Nestor was in those days a skilful architect, and in a manner the inventor of the use of mechanic power, which he brought to so great perfection that he knew to an atom what foundation would bear such a superstructure; and they record of him that he was so prodigiously exact that, for the experiment's sake, he built an edifice of great beauty and seeming strength, but contrived so as to bear only its

own weight, and not to admit the addition of the least particle. This building was beheld with much admiration by all the *Virtuosi* of that time, but fell down with no other pressure but the settling of a *Wren* upon the top of it. Yet Nestor's modesty was such that his art and skill were soon disregarded, for want of that manner with which men of the world support and assert the merit of their own performances. Soon after this instance of his art Athens was, by the treachery of its enemies, burned to the ground. This gave Nestor the greatest occasion that ever builder had to render his name immortal and his person remarkable, for all the new city rose according to his disposition, and all the monuments of the glories and distresses of that people were erected by that sole artist; nay, all their temples as well as houses were the effect of his study and labour, inasmuch that it was said by an old sage, 'Sure Nestor will now be famous, for the habitations of gods as well as men are built by his contrivances.' But this bashful quality still put a damp upon his great knowledge, which has as fatal an effect upon men's reputations as poverty; for, as it was said, 'the poor man saved the city, and the poor man's labour was forgot,' so here we find 'the modest man built the city, and the modest man's skill was unknown.'"

The death of Queen Anne in 1714 was another blow to Wren's failing fortunes, for George I. arrived with a crowd of needy Germans in his train, to secure appointments for whom and for such Englishmen as lent themselves to these transactions, he seems to have countenanced intrigues and bribes of every kind.

Unfortunately, the end of the term appointed by the Commissioners for St. Paul's coincided very closely with the new reign, and although the members of that Commission had not stood as loyally by Wren as had their predecessors in the office, he fared still worse at the hands of the new Commission, among the members of which court influence was strong.

Wren, now in the eighty-fifth year of his age and forty-eighth of his office of Royal Surveyor, seemed a suitable butt for the newcomers, and persecution began by a letter addressed to him from the Commissioners, insisting that, without the crowning balustrade of stone, his great Cathedral could not be reckoned complete.

Wren's reply to this communication, in which he quotes its phrases, furnishes the best comment.

A Letter from Sir C. Wren to the Commissioners concerning the Crowning of the External Walls of St. Paul's with a Balustrade

"I have considered the resolution of the honourable the Commissioners for adorning St. Paul's Cathedral, dated Oct 15, 1717, and brought to me on the 21st, importing 'that a balustrade of stone be set up on the top of the Church unless Sir Christopher Wren do, in writing under his hand set forth, that it is contrary to the principles of architecture and give his opinion in a fortnight's time: and if he doth not, then the resolution of a balustrade is to be proceeded with.'

"In observance of this resolution, I take leave first to declare I never designed a balustrade. Persons of little

skill in architecture did expect, I believe, to see something they had been used to in Gothic structure: *and ladies think nothing well without an edging.* I should gladly have complied with the vulgar taste, but I suspended for the reasons following:

"A balustrade is supposed a sort of plinth over the upper colonnade which may be divided into balusters over open parts or voids, but kept solid over solid parts, such as pilasters: for a continued range of baluster cannot be proposed to stand alone against high winds: they would be liable to be tipped down in a row if there were not solid parts at due distances intermixt which solid parts are in the form of pedestals and may be in length as long as the frieze below, where pilasters are double as in our case: for double pilasters may have one united pedestal as they have one entablature and one frieze extended over both. But now in the inward angles where the pilasters cannot be doubled, or before they were, the two voids or more open parts would meet in the angle with one small pilaster between and create a very disagreeable mixture. I am further to observe, that there is over the entablature a proper plinth, which regularly terminates the building: and as no provision was originally made in my plan for a balustrade, the setting up one in such a confused manner over the plinth must apparently break into the harmony of the whole machine, and, in this particular case, be contrary to the principles of architecture.

"The like objections arise as to some other ornaments: suppose of vases, for they will be double upon the solids; but in the inward angles there will be scarce room for one, though each of them be about two feet nine inches at the

bottom and nine feet high: yet these will appear contemptible below, and bigger we cannot make them unless we fall into the crime of false bearing, which artizans of the lowest rank will have sense enough to condemn.

"My opinion therefore is to have statues erected on the four pediments only which will be most proper, noble and sufficient ornament to the whole fabric, and was never omitted in the best ancient Greek and Roman architecture: the principles of which throughout all my schemes of this colossal structure, I have religiously endeavoured to follow: and if I glory it is in the singular mercy of God, who has enabled me to begin and finish a great work so conformable to the ancient model.

"The pedestal for the statues I have already laid in the building, which now stand naked for want of their acroteria.

"Christopher Wren.

"*Oct. 28th*, 1717."

In 1718 one Benson, whose cringing incompetence marked him out for court favours, was appointed in Wren's room. The entry in the manuscript chronology compiled during his father's lifetime by the younger Christopher Wren and collated by the great architect himself is very touching.

"*April* 26, 1715.—Superseded: in the 86th year of his age and 49th of his surveyorship."

"And there arose a King who knew not Joseph [Acts vii.]. And Gallio cared for none of these things."

"It is very well known," writes Ker of Kersland in his Memoirs (published 1728), "that Mr. B. was a favourite

of the Germans. So great that Sir Christopher Wren the famous Architect who contrived the stately Edifice of St. Paul's Church and finished it in his own time was turned out of his employment of being Master of the King's Work, which he had possessed with great Reputation ever since the Restoration, to make way for this Favourite of Foreigners.

"Some time afterwards Mr. B. fell under the displeasure of the House of Lords who, therefore, in the year 1719, addressed His Majesty to remove and prosecute him and upon His Majesty's gracious answer to this Complaint he not only ordered the said Mr. B. to be removed from his employment but prosecuted according to law. Whereupon none doubted but this Gentleman was to be brought to justice accordingly. But though he was removed instead of being prosecuted he was presented with the Wharf of White Hall worth yearly above £1500 for thirty Years."

The only feature at St. Paul's actually attributed to Benson's short tenure of office was the unworthy flight of steps which, until 1873, disfigured the great western façade. Happily, among the original Wren designs in St. Paul's Library, there was found one of the steps as he intended them, and, after a lapse of over a century and a half, this plan was carried out and the last trace of Benson swept away, unless we attribute to him the heavy fence which, against Wren's expressed desire, was now erected, and which even enclosed the western approach to the Cathedral until 1873. The balustrade, too, above the plinth was now put up, whereas a drawing of Wren's in the Gardner Collection proves that, if any ornament at all were considered neces-

sary for the plinth which we know he himself deemed sufficient, Wren would have preferred vases such as those which he suggested for Trinity Chapel, Oxford, and which may be seen there to this day.

The dignity which comes of wisdom has seldom been more conspicuously exhibited in human history than it was by Christopher Wren when, as an old man, court favour failed him and left him a prey to malicious foes. John Evelyn, who had done so much to win for Wren the due reward of his merits, had died in 1706, and no powerful champion appears to have arisen in Wren's defence.

"He," writes his grandson in *Parentalia*, "betook himself to a Country Retirement, saying only with the Stoick: 'Nunc me jubet fortuna expeditius philosophari.' In which Recess, free from worldly Affairs, he passed the greatest Part of the five last following Years of his Life in Contemplation and Studies and principally in the Consolation of the holy Scriptures: cheerful in Solitude and as well pleased to die in the Shade as in the Light."

It was to the house[1] on Hampton Court Green, granted to him in lieu of a pension, that he retired to busy himself with books and mathematics. He still retained his house in St. James's Street, for, in his post as Director of the Works at Westminster Abbey, he had not been superseded, so that he was often called on business to London.

He seems to have retained his faculties for the most part unimpaired, but there is surely an implied weariness in the fact that he suffered his pupil Gibbs to design the

1 This is still standing and known as Old Court House. It was formerly called the Paper House,

spire of St. Clement Danes, the church which he had built in 1682. Gibbs performed his task so well that his spire seems as though it had been a part of the original plan.

In 1720, a rumour was put abroad that the timber roof of the Sheldonian Theatre, over the construction of which the great architect had spent such pains and ingenuity, was in danger of falling. A committee of experts was promptly summoned to inspect and report on its condition, and, to the annoyance of Wren's jealous enemies, declared it to be "in perfect repair and good order. We do certify," wrote the committee, "that the the whole Fabrick of the said Theatre is, in our Opinion, like to remain and continue in such good Repair and Condition for one hundred or two hundred Years yet to come. In Testimony whereof, we have hereunto put our Hands the eighth Day of March, Anno Dom. 1720."

Sir Christopher's son and namesake had lost his wife, and, marrying again in 1715, had settled down as a Warwickshire squire at Wroxhall Abbey, where the curved garden wall is considered to be of his father's building. This son succeeded Sir Christopher as M.P. for Windsor.

As an instance of the untiring interest that Wren still took in scientific progress, it is related in Sir David Brewster's *Life of Isaac Newton* that, in his enforced retirement, he devoted himself afresh to the old problem of devising a manner by which the longitude might be discovered at sea. This was the very problem, it will be remembered, concern with which had led to the founding, by Charles II., of the Greenwich Observatory.

Wren's renewal of interest in the matter was no doubt owing to the fact that, in 1714, a petition was presented

to Parliament by the merchants and skippers of trading vessels that a substantial reward be publicly offered to any one who should solve this problem, since the solution was of incalculable importance to mariners.

Wren would seem to have thought lightly of the result of his labours, since he expressed his solution in cryptographic form, but a copy of the cipher was forwarded to the Royal Society by his son.

Once a year it was Wren's custom to drive to St. Paul's and spend some time sitting under the dome he had built, and on one of those occasions he caught cold. Having returned to his house at Hampton Court, he had been dining in the bow-windowed room of the ground-floor when his servant, wondering at his lingering so long, found him dead in his chair, his features in no way disturbed, having apparently passed away in his sleep. So, on February 25, 1723, died Christopher Wren, and was laid to rest, a few days later, by the side of his daughter in the crypt of St. Paul's. For nearly a century and a half there was no memorial to Sir Christopher Wren in the great Cathedral of his building, and the famous epitaph :

> "SUBTUS CONDITUR HUJUS ECCLESIAE ET URBIS CONDITOR CHRISTOPHORUS WREN QUI VIXIT ANNOS ULTRA NONAGINTA, NON SIBI, SED BONO PUBLICO. LECTOR, SI MONUMENTUM REQUIRIS, CIRCUMSPICE,"

the composition of his son, which bids the passer-by "look around" for the architect's best monument, was but inscribed upon the plain tablet which marks his burial-place in the crypt. Now, at last, it has a worthy place above the door of the north transept.

Few careers have been as little complicated as that of Christopher Wren, and equally simple was his personality. He had, it would seem, a double portion of that objective temperament which distinguished the men of his day, a temperament which left no leisure for introspection, so insatiably curious did it make them of the world without, so unflagging was their interest in all branches of knowledge other than psychological. This curiosity, this interest, stood Christopher Wren in good stead when, as an old man, he fell on evil days. The malice of his enemies failed in a great measure of its effect because he retained the power of concentrating his mind upon the solution of questions such as those with which he had been wont to wrestle as a boy, and, in pursuit of learning, of projecting himself into regions which the fiery darts of the wicked were powerless to penetrate.

"As to his bodily Constitution" [writes Stephen Wren], "it was naturally rather delicate than strong, especially in his Youth, which seem'd consumptive; and yet by a judicious Regularity and Temperance (having acquired good knowledge in Physick), he continued healthy, with little Intermission, even to this extreme old Age. Further 'tis observable, that he was happily endued with such an Evenness of Temper, a steady Tranquillity of Mind and christian Fortitude, that no injurious Incidents, or Inquietudes of human Life could ever ruffle or discompose."

It is by the unremitting study of work like Wren's that our young architects can best hope to check the tendency towards eclecticism which makes them fearful of monotony. Photography and travelling facilities have fostered this eclecticism by bringing the best work of all ages and

countries within reach, and the consequent ferment has more deplorable effects upon the art of building perhaps than on any other. Concentration and repose are greater qualities (if, like Christopher Wren, men would build for eternity) than versatility or invention. It is the lack of the former qualities that makes the exterior of Bentley's Roman Catholic Cathedral so little satisfactory, just as it is the blending of them that makes the interior the noblest of nineteenth-century building.

No more fitting close to this biography suggests itself than a Latin epitaph preserved in the pages of *Parentalia*, which state it to be the composition of a St. Paul's scholar, March 7, 1723:

SUSPICE ET MIRARE

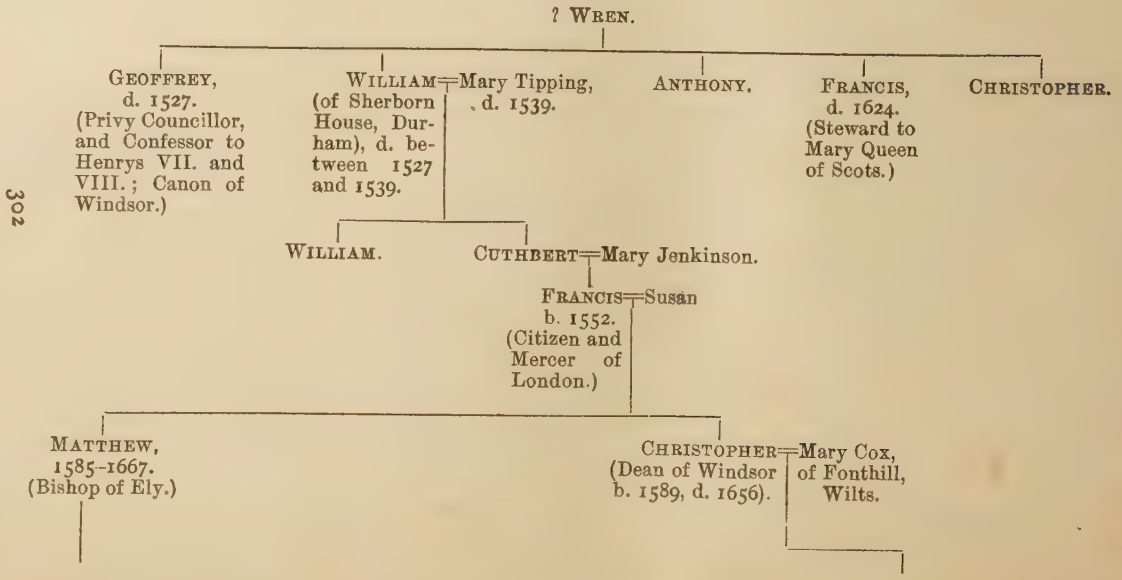
Christophorus Wren Eques Auratus
Totius hujus Fabricae
Magnus Architectus
Moli huic Immensae,
Sacrae, Eximiae,
Quam Animo Conceperat
Quam Inchoaverat,
Quam Perfecerat,
Unius Hominis Opus,
Haud Mortali datum.
Bis
Factus Immortalis
De Coelo Invigilat
Mente Permeat, Corpore Sustentat
Quantilli Corporis
Quantus Animus
Qualis Mens.

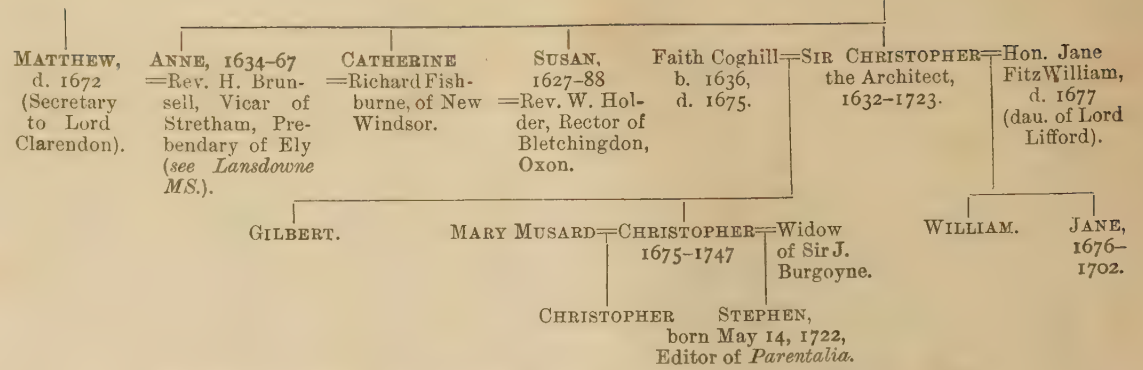
Depositum servet Ecclesia
Memor Sui !
Subtus jacet
Fundator, Curator.
Quam grande Opus !
Quam Perenne Monumentum

APPENDICES

APPENDIX A

GENEALOGY OF WREN FAMILY (STATED TO BE OF DANISH ORIGIN)


? WREN.
GEOFFREY, d. 1527. (Privy Councillor, and Confessor to Henrys VII. and VIII.; Canon of Windsor.)
WILLIAM (of Sherborn House, Durham), d. between 1527 and 1539.
Mary Tipping, d. 1539.
ANTHONY.
FRANCIS, d. 1624. (Steward to Mary Queen of Scots.)
CHRISTOPHER.
WILLIAM.
CUTHBERT
Mary Jenkinson.
FRANCIS
Susan
b. 1552. (Citizen and Mercer of London.)
MATTHEW, 1585-1667. (Bishop of Ely.)
CHRISTOPHER (Dean of Windsor b. 1589, d. 1656).
Mary Cox, of Fonthill, Wilts.


MATTHEW, d. 1672 (Secretary to Lord Clarendon).
ANNE, 1634–67 =Rev. H. Brunsell, Vicar of Stretham, Prebendary of Ely (see Lansdowne MS.).
CATHERINE =Richard Fishburne, of New Windsor.
SUSAN, 1627–88 =Rev. W. Holder, Rector of Bletchingdon, Oxon.
Faith Coghill b. 1636, d. 1675.
SIR CHRISTOPHER the Architect, 1632–1723.
Hon. Jane FitzWilliam, d. 1677 (dau. of Lord Lifford).
GILBERT.
MARY MUSARD
CHRISTOPHER 1675–1747
Widow of Sir J. Burgoyne.
WILLIAM.
JANE, 1676–1702.
CHRISTOPHER
STEPHEN, born May 14, 1722, Editor of Parentalia.

DESCENT OF MRS. CATHERINE PIGOTT FROM SIR CHRISTOPHER WREN,

WITH DATES OF MARRIAGES.

Sir Christopher Wren = Faith Coghill. (Dec. 7, 1669.)
Christopher Wren = Mary Musard. (1706.)
Christopher Wren = Mary Bartlett. (1737.)
Christopher Wren = Martha Roberts. (Abt. 1772.)
Christopher Roberts Wren = Anne Biggs. (1815.)
Theodosia Anne Martha Wren = Chandos Hoskyns.[1] (1837.)
Catherine Wren Hoskyns[2] = Rev. C. F. C. Pigott. (1873.)

[1] Who assumed Wren arms by royal licence.

[2] Mrs. Pigott owns a portrait of the great architect in his youth, the cabinet presented to him by Queen Anne, and the heirloom interleaved copy of *Parentalia*, which contains several autograph letters, the MS. draft of Pascal's problem, &c.

APPENDIX B

CHRONOLOGICAL LIST OF THE WORKS OF SIR CHRISTOPHER WREN

There is no documentary authority for the attribution to Wren of the works starred.

Ely . .	Doorway in north transept, lobby of south transept of Cathedral	1663
	Some work in Bishop's Palace	
Cambridge	Chapel of Pembroke College and part of cloister (additions to the Chapel by Sir Gilbert Scott)	1663–6
London .	Storehouse in the Tower	1664
Oxford .	Second Quadrangle at Trinity College	1667–82
London .	Guildhall repairs, work destroyed by Dance	1669–71
	Pewterers Hall	1668
	Royal Exchange (burned down 1838)	1668–9
	Custom House (burned down 1718)	1668
Salisbury	Repairs to Cathedral spire	1668
Oxford .	Sheldonian Theatre	1669
Cambridge	Chapel of Emmanuel College	1669–77
	*Bishop's Hostel	1670
London .	Temple Bar (removed to Theobalds Park 1878)	1670–72

	Mercers' Hall, Cheapside (destroyed and re-erected at Swanage, 1882)	1670
	*Brewers' Hall	1670
	The Monument	1671–77
	St. Christopher-le-Stocks repaired; rebuilt 1696. Destroyed 1781 to provide space for enlargement of Bank of England	1671
	St. Mary-le-Bow (steeple, 1680)	1671–3
	St. Mary-at-Hill	1672–77
	St. Michael, Cornhill (tower, 1721)	1672
	Tower of London, Armoury. Destroyed by fire 1841. About	1672
	St. Stephen, Walbrook (tower, 1681)	1672–79
	St. Benet Fink (destroyed 1843 when Royal Exchange was rebuilt)	1673–76
CAMBRIDGE	Trinity College Library	1673–79
LONDON .	St. Olave Jewry (destroyed 1887 under Union of City Benefices Act)	1673–6
	St. Dionis Backchurch (destroyed 1876 under Union of City Benefices Act)	1674
	St. George, Botolph Lane (destroyed 1905 under Union of City Benefices Act)	1674–77
	Drury Lane Theatre (taken down in 1791)	1674
ARBURY .	House (stables only now standing)	1674
GREENWICH	Observatory	1675
LONDON .	St. Paul's Cathedral (first stone laid June 21, 1675; choir opened for service December 2, 1697; dome completed 1710)	1675–1710
	St. Michael, Wood Street (destroyed under Union of City Benefices Act)	1675

	St. Magnus the Martyr, London Bridge (steeple, 1705)	1676
Ingestre	*Parish Church	1676
London	St. Mildred's, Poultry (destroyed 1872 under Union of City Benefices Act)	1676-77
	St. Stephen, Coleman Street	1676
	St. Laurence Jewry	1676
London	St. James, Garlickhithe	1677–83
	St. Nicholas Cole Abbey	1677
	St. Michael, Queenhithe (destroyed 1876 under Union of City Benefices Act)	1677
	St. Mary, Aldermanbury	1677
	St. Swithin, Cannon Street	1678–9
	St. Michael Bassishaw, Basinghall Street (destroyed under Union of City Benefices Act)	1678–9
	Pedestal of Charles I. Monument, Charing Cross	1678
	King's Bench Walk, Temple	1678
	St. Bartholomew-by-the-Exchange (destroyed 1841 to form site for Sun Fire Office)	1679
	SS. Anne and Agnes, Aldersgate	1679–80
Dublin	Royal Hospital, Kilmainham	1680–86
London	St. Mary-le-Bow (steeple)	1680
	St. Clement Danes, Strand (steeple by Gibbs, 1719)	1680
	St. Stephen, Walbrook (steeple)	1681
Oxford	*Ashmolean Museum	1681–3
	Tom Tower, Christ Church	1681–2

London	All Hallows, Bread Street	1681–4
	St. Peter, Cornhill	1681–2
	St. Antholin, Watling Street (destroyed 1875 under Union of City Benefices Act)	1682
	Latin School, Christ's Hospital (destroyed about 1825)	1682
	St. Mary Aldermary (tower rebuilt 1711)	1682
	Chelsea Hospital	1682–92
Winchester	Palace (never completed; a portion of it now barracks)	1683–5
London	St. James, Piccadilly (tower not Wren's)	1683
	St. Mildred, Bread Street	1683
	SS. Augustine and Faith, Watling Street (spire 1695)	1683
	St. Clement, Eastcheap	1683–6
	All Hallows the Great, Upper Thames Street (destroyed 1896 under Union of City Benefices Act)	1683
	St. Benet, Paul's Wharf	1683–4
	Middle Temple Gateway	1684–8
Winchester	Great Schoolroom of College	1684
Chichester	Repairs to Cathedral spire and two private houses	1684
Oxfordshire	Fawley Court	1684
Lincolnshire	*Belton Hall, Grantham	1685–9
London	St. Martin's, Ludgate Hill	1684–5
	St. Alban, Wood Street	1685
	St. Mary Magdalen, Knightrider Street (injured by fire 1886 and pulled down)	1685

	St. Benet, Gracechurch Street (destroyed 1867 under Union of City Benefices Act)	1685
	St. Matthew, Friday Street (destroyed 1886 under Union of City Benefices Act)	1685
	St. Mary Abchurch	1686
	Christ Church, Newgate Street (steeple 1704)	1687
	St. Margaret Pattens, Rood Lane	1687
	St. Andrew's, Holborn	1687
ROCHESTER .	*Guildhall	1687
LONDON .	St. Michael, Crooked Lane (destroyed 1831 for approach to new London Bridge)	1688
WINDSOR .	Town Hall	1688
LONDON .	Library for Archbishop Tennison (destroyed for building of National Gallery)	1688
	College of Physicians, Warwick Lane (destroyed 1866)	1688
	St. Edmund King and Martyr, Lombard Street	1689–90
HAMPTON COURT	Fountain Court, Garden Fronts, State Apartments	1689–94
LONDON .	St. Margaret, Lothbury	1690
	Kensington Palace	1690–1706
	The Mint in the Tower (destroyed)	1691
	St. Andrew's-by-the-Wardrobe	1692
	Road from Hyde Park Corner to Kensington	1692
	All Hallows, Lombard Street	1693

Oxford	Chapel of Trinity College	1691–4
Appleby (Leicestershire)	School	1693
London	St. Michael Royal, College Hill	1694
Blackheath	Morden College	1695
Warwick	Tower of St. Mary's Church	1695
London	St. Vedast, Foster Lane	1695
	St. Mary Somerset, Thames Street (destroyed 1872; tower left standing)	1695
Greenwich	Royal Naval Hospital	1696–1705
London	Marlborough House (disfigured by additions)	1698
	Westminster Abbey: front of North Transept (work swept away by Gothic restorers)	1698–1722
	St. Dunstan-in-the-East (spire only)	1698–9
	St. Bride's Steeple	1700
Isleworth	All Saints (disfigured by restoration)	1701–5
London	Orangery, Kensington	1704–6

From 1697 until his death he was chief director of the works of restoration at Westminster Abbey.

APPENDIX C

Reverendo Patri Domino Christophoro Wren, S.T.D., et D. W. Christophorus Filius hoc suum Panorganum Astronomicum D.D., xiii Calend. Novem. Anno 1645.

Si licet, et cessent rerum (Pater alme) tuarum
Pondera, devotæ respice prolis opus.
Hîc ego sidereos tentavi pingere motus,
Cœlicaque in modulos conciliare breves.
Quo (prolapsa diù) renoventur tempora gyro,
Seculaque, et menses, et imparilesque dies.
Quomodo Sol abeat, redeatque et temperet annum,
Et (raptum contrà) grande perennet iter;
Cur nascens gracili, pleno orbe refulget adulta
Cur gerat extinctas menstrua luna faces.
His ego numinibus dum cito, atque ardua mundi
Scrutor, et arcanas conor inire vias.
Adsis, O! faveasque pater, succurre volanti
Suspensum implumis dirige prolis iter.
Ne male, præcipiti, nimium prae viribus audax
(Sorte sub Icarea) lapsus ab axe ruam:
Te duce, fert animus, studiis sublimibus hisce
Pasci, dum superas detur adire domos.

APPENDIX D

DR. SPRAT TO DR. WREN, 1663

I owe you, my dear Friend, an ill Turn, your late Plot against me was most barbarous, your design was as bloody as Venner's:[1] you endeavoured to raise a new Rebellion in my Heart, just after a long civil War: for this I have vow'd a severe Revenge, and have laid a thousand Policies to catch you: I have look'd over all my Treasures of Malice and have at last found a good old Engine, which never fail'd me in Time of Need and that is the writing of a long Letter. With this I have made many fatal Experiments, and have on all Occasions satisfy'd my Wrath on those that displeas'd me: so that for fear of it, some have wholly forsaken my Acquaintance and rejected my Passion: some have fled the Kingdom: and some (for what I know) have gone into another World. It is with this murd'rous Instrument that I come to assault you: and I trust its Operation will confirm the Opinion of your Philosophers that anything tho' never so innocent may be Poison, if taken in too great a Quantity. It shall, I promise you, be as long as the Paper will give me Leave, and to the Length of it I will also add that it shall be written on a Subject on which I have heard you yourself speak many admirable things: that so you may undergo the Torment to read your own Thoughts disfigur'd by my Expression: which I hope will be as great a Grief to you as it was to the King (whose name I have forgot)

1 Thomas Venner, a Fifth Monarchy preacher, executed for conspiracy in 1661.

when the Scythians sent home his own Ambassadors to him with their Ears, and Noses, and Lips cut off. Now then, my dearest Friend, you may recollect we went Lately from Axeyard to walk in St. James Park, and tho' we met not the incomparable Person [1] whose Company we sought, yet he was enough present in our thoughts, to bring us to discourse of that in which he so much excels, the Wit of Conversation. Some Part of what you then said, you shall now here over again: for tho' I have a most treacherous Memory in other Matters, yet my Love to Kit Wren makes it always faithful in preserving whatever he commits to it. The Wit therefore of Discourse is as different among the several Parts of Mankind as the temper of their Air and Constitution of their Bodies: and so it is to be divided into general and particular, the general is that which consists of Terms and Similitudes and which are received by many nations. This either prevails by Conquest and so the Roman Language and Wit have obtain'd over all the countries where they sow'd Civility by their Victories: or else by the situation, Authority and commanding Genius of one People above another. Thus the Grecians became Teachers of the Arts of Talking to the Ancients: and the French of late to the Moderns: whose Tongue and Customs have gone farther in Europe, than their present King, how terrible soever he appears, is likely to carry their Armies. Of this general Wit there are manifest differences to be observ'd. That of the Chinese consists in the skill of writing several Characters, that of the Egyptians in giving Things themselves, instead of Words, for similitudes: In painting a Snake with its Tail in its mouth to signify the Year: a Lyon for Courage: the Sun Moon and Stars for a thousand Conceipts. A strange kind of laborous expression, this kind,

[1] Thought by Elmes to refer to Sir William Petty, 1623–1687.

which if the Orators of our Time should use in their luxuriancy of Metaphors they would stand in need of the Ark to carry about with them every one of their Orations. The Eastern Wit in all Ages has been principally made up of lofty and swelling Comparisons as we may see at this Day in the Titles of the Sophy and Grand Seignor which no doubt are some of their noblest Fancies: and yet to our Understanding, they require the Assistance of Mahomet's Dove to make Sense of them. That of the Moors was the same as the Spanish at this Time. The Italian, French, English, Dutch (if they have any) is something alike according to their Common Original, the Latin. Of the Muscovitish or Tartarian I can give but little account: But I assure you even the Irish had a Wit of their own, though you will hardly believe it, till some of our Friends went thither: nay, to say more to their Advantage they had this peculiar to themselves that almost all their whole Nation was at the same Time both Poets and Saints. The particular Wit, is that which arises from the frequent Meetings of private Assemblies: And this too is capable of infinite divisions: for there is hardly the least Company in the World which rendezvouses together but has its Common Sayings, Figures, Characters, and Observations, which are great Raillery in their proper Compass, but tasteless to Strangers. This is evident in several Shires of England. When I was in the North there was a Buffoon that was a dreadful Droll among the Yorkshire Gentlemen and yet scarce spoke a Grain of Salt to our Southern Tastes. This likewise appears in several Professions of Men. The Lawyers will laugh at those jests in the Temple which it may be will not move us at Charing Cross. And it is likely that Tom Killigrew[1] himself would not seem good Company

1 Thomas Killigrew (1612–1683). His portrait, painted by Vandyck, with Thomas Carew, is in Capitol Gallery, Rome.

at a Table of Benchers. The Wit beyond Fleet-Bridge has another Colour from that on this Side. The very Watermen on the Bank-side have their Quipps, and their Repartees, which are not intelligible but upon the Thames. But to say no more: this is to be seen in every Private family. I had almost gone so far as to say that there is scarce a Husband and Wife in the World but have a particular way of Wit among themselves: but this I will not affirm because this Evil Age believes, that few married persons are wont to delight so much in one another's Company as to be merry and witty alone. Now then having discovered this mighty Proteus, which puts on so many various Shapes, in several Places, and occasions, let us try to define it. The Wit of Discourse is (to speak magnificently) the greatest Art about the smallest Things: For to confess a Secret, as Sir W. Davenant's Way differs very little from Frank Bowman's and yet the one is the gayest and the other the most insipid: so the true Pleasant talk and the vainest tattle are not very much distinguished: the Subjects of both of them are a thousand little Trifles and the Difference lies only in the Management. Nor does this meanness of Matter prejudice the Art for then, it would follow that your Divine Works in the King's Church are the worst, because they are the Description of a Louse, a Flea, and a Nit. The Wit therefore is made up of many inexpressible excellences. It must have a general Evenness of Humour: It must perfectly observe all the Rules of Decency, to know when enough is said: to forbear biting Things not to be touched: to abstain from abusing honest and vertuous Matters.

It must apply itself to the Condition and Inclination of the Company: It must rather follow than lead: it must not always strain to speak extraordinary Things: for that is a constant walking on the Ropes, in which though a Man does

often well, yet he may have one Fall, that may chance to break his Neck: It must allow everyone their Term of speaking, for it is natural to all, better to love their Company who give them occasions of speaking well, than those that do it themselves. It must always mingle Stories with Argument, pleasant Things with Solemn: It must vary the Subject often, not pump itself dry at once. This, if you will believe Mr. Cowley, is a wise Quality: for in a Copy of Verses which you have not seen he says:

So the Imperial Eagle does not stay
Till the whole Carcase he devour
That's fallen into his Power,
As if his generous Hunger understood
That it can never want Plenty of Food:
He only sucks the tasteful Blood
And to fresh Game flies chearfully away,
To Kites and meaner Birds he leaves the mangled prey.

This generous Eagle-Wit therefore uses the best and easiest Words, is not the first that takes up new ones, nor the last that lays down old ones. But above all, its chiefest Dominion is in forming new Significations and Images of Things and Persons. And this may be so suddenly practised that I have known in one afternoon, new Stamps and Proverbs and Fashions of Speech raised, which were never thought of before, and yet gave Occasion to most delightful imaginations. You see now, my dear Friend, of what Extent and difficulty this Art is. The Truth is it is seldom to be found among Men of large and full and high thoughts, because such Minds overlook the little Passages and fly presently to general Axioms which it may be are more useful, yet they do affect our Thoughts with such an Immediate and familiar delight. But to speak Truth the Perfection of this glorious Faculty, without which Life were no Life, belongs not so much to Men, as to the softer Sex: for they

have usually their heads less disturbed with busy thoughts, their Minds are quicker and readier for new Impressions, they talk more of circumstantial things, they sit longer together, and (which you used to say is of great Concernment in our northern and Phlegmatick Climate) they keep their feet warmer and drier, and go less into the moist and open air. But that Women are the best Speakers, I could give you too Undeniable Instances in your Laura (as I think you call her) and she who was once my Clelia: the one speaks with a great Freedom and Spirit, and Abundance of excellent Words, the other talks less, but with as much Sweetness and Nature: from the one nothing can be taken away: to the other nothing ought to be added. But I dare not go farther in this Description on Remembrance of an old Story: that while a Painter was drawing a most beautiful Lady, he fell desperately in Love with her, and it had cost him his Life had not Alexander bestowed her on him! The first Part of this Tale I am sure would be my Fortune, if I should longer employ my Thoughts on such a lovely Object: and I am certain that I should perish long enough before I should find an Alexander to pity me. To go on then in my first Purpose. Wit consists in a right ordering of Things and Words for Delight. But—stay—now I look about me what Need have I to go any farther? You are without Question already sufficiently tired and so my End is obtained: and then it will be useless to speak more on this Subject, seeing the Age wherein we live runs already so mad after the Affairs of Wit. All the World are at present Poets: the Poetical Bees are all at Work: Comedies, Tragedies, Verses, Satyrs, Burlesques, Songs buzz everywhere about our Ears: and (to ease my Hand a little by changing my Pace)

> Wits we have now as many (if not more)
> As we had Sects, or Preachers, heretofore:

And Heaven in Mercy grant this crying Sin
Don't the same Judgements once more usher in.
We have our Northern Wits, Wits of the East,
Wits of the South, and Witlings of the West;
South and by West, South-East, East and by North,
From ev'ry point like Winds they bluster forth.
We have our Wits that write only to sway,
At York or Hull, or ten Miles thence each Way.
Each Corporation, Sea-port, Borough, Town,
Has those that will this Glorious Title own.
Like Egypt's frogs they swarm, and like them too
Into the Chambers of our Kings they go.

What is to be done with this furious Generation of Wits and Writers? To advise them I leave off in vain.

Too strong the Infection is
To be destroyed by such quick Remedies.
No, no, it is a sweet and flatt'ring Kind
Of Poison, and deceives the clearest Mind;
Cowley himself (Cowley whom I adore)
Often resolv'd, nay, and I think he swore
That he no more those barren Lands would plow,
Where flow'ry Weeds instead of Corn do grow.
Perchance (as Jesuit's Powder does) each Vow
Kept the fit off from him three Weeks, or so
But yet at last his Vows were all in vain,
This Writing Ague still returns again.

Well, then, if they are incurable, let them write on. But while others are exalting such dangerous Trophies of their Wit I will be content to give but one Instance of my own; but it is such that no Critick can lay hold on; and it is that I infinitely love one of Sir Harry Savil's Professors; You may easily guess which I mean or whether it be to Dr. W. or yourself, that I am

A most affectionate Servant,

Tho. Sprat.

APPENDIX E

LETTER OF DR. WREN TO THE RIGHT HONOURABLE LORD BROUNCKER, JULY 30, 1663.

(*Preparative to His Majesty's Entertainment at the Royal Society, Oxford.*)

My Lord,

The Act and Noise at Oxford being over, I retir'd to myself as speedily as I could to obey your Lordship and contribute something to the Collection of Experiments designed by the Society, for His Majesty's reception. I concluded on something I thought most suitable for such an Occasion; but the stupidity of our Artists here makes the apparatus so tedious, that I foresee I shall not be able to bring it to anything within the Time propos'd. What in the meanwhile to suggest to your Lordship I cannot guess: the Solemnity of the Occasion, and my Solicitude for the Honour of the Society makes me think nothing proper, nothing remarkable enough. 'Tis not every Year will produce such a Master experiment as the Torricellian, and so fruitful of new Experiments as that is, and therefore the Society have deservedly spent much Time upon that and its Offspring. And if you have any notable Experiment that may appear to open new Light unto the Principles of Philosophy nothing would better beseem the Pretentions of the Society, though possibly such would be too jejune for the Purpose, in which there ought to be something of Pomp. On the other Side to produce Knacks only,

and things to raise wonder, such as Kercher, Scottus and even Jugglers abound with, will scarce become the Gravity of the Occasion: it must therefore be something between both, luciferous in Philosophy and yet whose Use and Advantage is obvious, and without a Lecture: and besides may surprise with some unexpected Effect, and be commendable for Ingenuity of the Contrivance. Half a dozen Experiments thus qualified will be abundantly enough for an Hour's Entertainment; and I cannot believe the Society can want them if they look back into their own Store; for myself I must profess freely I have not anything by me suitable to the Idea I have of what ought to be performed before such an Assembly. Geometrical Problems and new Lines, new Bodies, new Methods, how useful soever will be but tasteless in a transient Show; New Theories or Observations or Astronomical Instruments either for Observation or facilitation of the Calculus are valuable to such Artists only who have particularly experimented the Defects that these Things pretend to supply.

Sciographical Knacks, of which yet a hundred varieties may be given are so easy in the Invention that now they are cheap. Scenographical, Catoptrical and Dioptrical Tricks, require excellent Painting as well as Geometrical Truth in the Profile or else they deceive not. Designs of engines for ease of labour or promoting anything Agriculture or the Trades, I have occasionally thought upon divers, but they are not intelligible without letters and references, and often not without something of Demonstration. Designs in Architecture etc. the few chymical Experiments I have been acquainted with, will, I fear, be too tedious for an Entertainment. Experiments in Anatomy, though of the most value for their Use are sordid and noisom to any of those whose Desire of Knowledge makes them digest it. Experiments for the Establishment of Natural Philosophy are seldome pompous; 'tis upon Billiards and

Tennis Balls; upon the purling of Sticks and Tops; upon a Vial of Water or Wedge of Glass that the great Descartes hath built the most refined and Accurate Theories that human Wit ever reached to and certainly Nature in the best of her Works is apparent enough in obvious Things, were they but curiously observ'd; and the Key that opens treasures is often plain and rusty, but unless it be gilt 'twill make no Show at Court.

If I have been Conversant in philosophical Things (as I know how idle I have been) it hath been principally in these Ways which I have recounted to your Lordship, by which your Lordship perceives how useless I am for this Service; yet if your Lordship will still pursue, I know not what Shift to make, but to retire back to something I have formerly produc'd.

I have pleased myself not a little with the Play of the Weather-Wheel (the only true Way to measure Expansions of the Air), and I imagine it must needs give other Satisfaction if it were once firmly made, which I suppose may be done if the circular Pipes (which cannot be truly blown in Glass) were made of Brass, by those who make Trumpets and Sackbutts (who wire draw their Pipes through a Hole to equal them and then filling them with melted Lead turn them round with what Flexures they please); the inside of the Pipe must be varnished with China Varnish to preserve it from the Quick-silver and the Glasses fixed to it with Varnish, which I suppose will be the best Cement in the world; for thus the Chinese fixed glass and Mother of Pearl in their Works. It would be no unpleasing Spectacle to see a Man live without new Air as long as you please. A Description of a Vessel for cooling and percolating the Air at once I formerly show'd the Society and left in Mr. Boyle's Hands; I suppose it worth putting in Practice; you will at least learn thus much from it that something else in Air is requisite for Life, than that it be cool only,

and free from the fuliginous Vapours and Moistures it was infected with in Expiration; for all those will in Probability be deposited in its Circulation through the Instrument. If nitrous fumes be found requisite (as I suspect) Ways may possibly be found to supply that too, by placing some benign Chymical Spirits, that by fuming may infect the Air within the Vessel.

If an artificial Eye were truly and dioptrically made (which I would have at least as big as a Tennis Ball) it would represent the Picture as Nature makes it. The Cornea and Chrystalline must be Glass the other Humours, Water. I once surveyed a Horse's Eye as exactly as I could, measuring what the Spheres of the Chrystalline and the Cornea were; and what the Proportions of the distances of the Centers of every Sphere were upon the Axis. The Ways by which I did it are too long to rehearse, but the Projection in triple the Magnitude, Sir Paul Neile may possibly find or if your Lordship think it worth while, I shall reiterate the Experiment.

A Needle that would play in a Coach will be as well useful to know the Coast and Way join'd with the Way-wiser as a pleasant Diversion to the Traveller, and would be an acceptable Present to his Majesty who might thus as it were sail by Land. The Fabrick may be thus: in a Sphere of Glass of two Inches Diameter, half full of Water, cause a short, heavy broad needle, fixed to a chart to swim, being buoyed up by the Chart and both varnish'd; instead of a Cap and Pin, let the perforated Needle play about a small Wire or Horsehair extended like a Perpendicular Axis in the Glass-Sphere, whose Nadir being made weighty with Lead, and an Horizon as it were cemented to it, let it play on Circles like the Compass; then let a hemispherical Concave containing the Sphere in its Circles, be hung upon Springs in this Manner.

Suppose a Basis upon which are erected perpendicularly

three stiff Brass Springs from the Ends of which Springs, are Strings strain'd, forming an equilateral Triangle the Middle of whose Sides passed through three small loops on the Brim of the Concave which therefore hanging on the strings represents a Circle inscribed in a triangle. From the Middle of the Basis arises a Worm-spring fastened by a String to the Nadir of the Concave, drawing it down a little and acting against the other three Springs. These Springs, I suppose, will take off at once much of both the downright and collateral Concussions; the Circles will take off Oscillations, the Agitations remaining will be spent in the Water and still'd by the Chart, for thus we see a Trencher swimming in a Bucket keeps the Water from spilling in the Carriage and the Chinese have their Compass swimming in Water instead of Circles.

Lastly, I would have all the Bottom of the Basis bristled round like a Brush somewhat inclin'd which is a cheap Addition and will ease it like a hundred Springs; it should be placed on the Middle of the Floor of the Coach where by opening a Window you might see likewise the Way-wiser on the Pearch. My Lord, if my Designs had been perfect, I had not troubled your Lordship with so much Tattle, but with something perform'd and done. But I am fain, in this Letter, to do like some Chymist who when Projection (his fugitive darling) hath left him threadbare is forced to fall to vulgar Preparations to pay his Debts.

My Lord,

I am,

Yours etc.

APPENDIX F

LETTER FROM SIR CHRISTOPHER WREN TO A CERTAIN FRIEND, PROBABLY DR. WILKINS.[1]

Sir,

The account you give me in your last Letter that a Double Writing Instrument hath of late been at London, pretended to by several as a Production of their own, and so divulged to divers, hath given me Occasion of putting into your Hands (what certainly I have more right to dispose of than any late Pretender) that Double Writing Instrument of the Effect of which, about three Years ago, your self Sir, as I remember, among other the Ingeniosi were Judges, at the same Time when accidentally it was commended to the View of the then great, now greatest person in the Nation. I confess my Thoughts were then to suffer it to be Publick and Friends spur'd me to it, apprehending it not as a meer Curiosity but of excellent and very general Use. Moreover to copy out in every Punctilio the exact resemblance or rather the very Identity of the two Copies, as if one should fancy such a piece of Magick as should make the same Thing really two; or, with drunken Eyes, should see the same thing double, is what might be thought almost impossible for the Hand of Man. But Business drew me suddenly from London and from the Opportunity of publishing it; content that I had at least communicated it to the ingenious Few, I willingly left it. And

[1] Stephen Wren quoting this letter in *Parentalia* writes: "This Draught of a Letter bears no date, yet by the Contents the Time may be nearly computed . . . scil. 1650."

indeed the Thing always appearing to me but an obvious (though useful) Invention I was easily drawn off to neglect it all this while, by the intervening of Studies and Designs that I much more esteem'd; amongst which this took up so little a Place that I am beholding to the Person who, by vindicating it to be his own, has put me again in Mind of it. I accuse none of Plagiary, because having shewn it to few I think it would be more Trouble to any knowing Person to enquire it out of others, than to invent it anew; and therefore had it been thought on by any other, about that Time I showed it, I should have readily imagined (because of the Obviousness of the Experiment) that it might as easily have had a double Father, as have produced a twin Copy, but I am apt to believe from good Information, that those who now boast of it had it from one who, having fully seen the Author's and examin'd it carefully (as it is easy to carry away being of no complicate Composure) described it justly to his Friend and assisted him to make it; and the very glorying in a Thing of so facile Composure sufficiently discovers a Narrowness of Spirit in Things of Invention, and is therefore almost Argument enough that he was not justly so much as a Second Inventor; nor hath the Author reason to take it far an Injury, that one reported a deserving Person in other Abilities would please to own a cast off Toy of his, but rather owes him a Civility out of Gratitude for fathering it, and saving him that Labour of Education he intended which will now be needless, the dispersing of diver Instruments among the Merchants, with Directions for the Use. But it may be there are Divers who knowing such a Thing to have been talked of some years ago, as coming from another Hand will be easily ready to turn all this with Advantage upon myself; Indeed though I care not for having a successor in Invention yet it behoves me to vindicate myself from the Aspersion of having a Predecessor.

APPENDIX G

LETTER TO SIR PAUL NEILE

October 1, 1661.

Honored Sir,—

You know of what prevalency your Commands alone are with me, although they had not been seconded by the Votes of the best Society of Europe, to disobey which would not be rudeness alone but Gothicism and enmity to the progress of Learning; yet if it were not my resolution, that I ought to suffer anything rather than be deficient to soe much duty; you should not have obtained of me to empose my selfe soe many waies as I must of necessitie in this little Trifle, the Hypothesis of Saturne. For had it been soe fortunate to have come into your hands, while it could have told you any newes, it might possibly have been as well received as the first Messenger of a Victory is wont to be though he bring but an imperfect story; but when Hugenius hath outred me who stay'd to bring a fuller relation; to give you now a stale account will noe doubt be a pleasant thing to you, as unseasonable well-meanings are wont to be, but canot give you any serious satisfaction. I must confess I have often had the pusillanimity rather to neglect that Right I might in future have vindicated, than by challenging it too late incurre the jealousy of being a Plagiary; and since you it is will not suffer me to continue in this peaceable humour, I shall not need to fear that you will entertaine any such suspicion, especially since this kind of Saturn was long before hatched

by your Influence at White Waltham upon the observation of December, 1657 when first wee had an apprehension that the Armes of Saturn kept their leangth which produc'd this hypothesis, made first in two past-boards, not to say anything of our attempts in Wax in Jan. 1655. The hypothesis made more durable in metal was posed on the Top of that Obelliske which was erected at Gresham College in 1658 (if I mistake be pleas'd to rectify me) to raise the 25 foot telescope of your Donation; at the same time I was put upon writing on this Subject for which I supposed I had tolerable Observations and materials at Hand; but first I was enjoyned to give that short and generall account of it which about that time I drew up in this sheet; but when in a short while after, the hypothesis of Hugenius was read over in writing, I confesse I was so fond of the neatnesse of it, and the naturall simplicity of the contrivance agreeing soe well with the physicall cause of the heavenly bodies that I loved the Invention beyond my owne and though this be soe much an equifollent with that of Hugenius, that I suppose future observations will never be able to determine which is the trewest, yet I would not proceed with my designe nor expose soe much as this sheet any farther than to the Eye of my bosome friend to whom even my errors lay alwaies open neither had I now been perswaded to it, but that I could not endure a Regresse in Reall Learning, having alwaies had a Zeale for the Progresse of it; and to see ingenious men neglecting what was well determined before, to doe worse on the same subject because they would do otherwise, was alwaies wont to make me passionate, and therefore I could not with Charity suffer a person (whose greate Wit unusefully applied, would be a losse to the world) to trouble himselfe with this lesse considerable hypothesis which if he had known not to be new, he had certainly despised. And yet it is very well advised of him that wee

should not soe build upon Hugenius' hypothesis as to neglect the observations about the full phasis which till they are obtained little more can be determined in this thing than what Hugenius hath done. And therefore though I might have taken occasion together with this old paper to have read some new thoughts, and to have suggested some new hypotheses yet considering they would as yet be but meer conjectures, I have let alone those thoughts. And if it be suspected that anything raz'd in this superficiall draught of Saturn be of this sort that is contrived since the seeing of Hugenius; I have a double Appeale to make, one to my honoured friend, Mr. Rooke, who at first saw the only copy and another to the Style, which speaks. I had not yet used the Industry to refine it above what might have proceeded from my childish pen, having not then been soe sufficiently convinced of the necessity of words as well as thinges; neither would I change it now that I might be conscious to my selfe of sincerity but where too much obscurity in the expression forced me in two or three places. For these reasons I earnestly beg this favour of you (as a friend I desire it) that you would keepe it in your hands and restore it again, which as the case stands will give me almost as much satisfaction as if I had found the confidence to have excused my selfe when it was enjoyned me at the Society; which I might well have done considering that divers there had been at the trouble to heare the Astronomy Reader at Gresham give fuller discourses on the same subject which he thought then was publication enough and might have saved the Impertinances of these Apologies for that which he thinks deserves not now soe much of his care otherwise than as it is a Command from them.

Your most obedient humble servant,

CHRISTOPHER WREN.

APPENDIX H

LETTER WRITTEN BY CHRISTOPHER WREN FROM PARIS

Stephen Wren, in *Parentalia*, writes:

In the year 1665, Mr. Wren took a journey to Paris, where, at that Time all Arts flourish'd in a higher Degree than had ever been known before in France; and where there was a general Congress of the most celebrated Masters in every Profession, encourag'd by Royal Munificence, and the influence of the great Cardinal Mazarine.

How he spent his Time, in that Place, will in Part appear from a short Account he gave by letter to a particular Friend; wherein he returns Thanks for his recommendation of him to the Earl of St. Albans who in the Journey, and ever since, had us'd him with all Kindness and Indulgence imaginable, and made good his Character of him, as one of the best men in the World. He then proceeds to the following Particulars; "I have," says he, "busied myself in surveying the most esteem'd Fabricks of Paris, and the Country round; the Louvre for a while was my daily Object, where no less than a thousand Hands are constantly employ'd in the Works; some in laying mighty Foundations, some in raising the Stories, Columns, Entablements, &c., with vast Stones, by great and useful Engines: others in Carving, Inlaying of Marbles, Plaistering, Painting, Gilding, &c., Which altogether make a School of Architecture, the best probably, at this Day in Europe. The College of The Four Nations is usually admir'd, but the

Artist hath purposely set it ill-favouredly, that he might show his Wit in struggling with an inconvenient Situation.—An Academy of Painters, Sculptors, Architects, and the chief Artificers of the Louvre, meet every first and last Saturday of the Month. Mons. Colbert, Superintendant, comes to the Works of the Louvre, every Wednesday, and, if Business hinders not, Thursday. The Workmen are paid every Sunday duly. Mons. Abbe Charles introduc'd me to the Acquaintance of Bernini, who show'd me his Designs of the Louvre, and of the King's Statue.—Abbe Bruno keeps the curious Rarities of the Duke of Orleans's Library, well fill'd with excellent Intaglio's, Medals, Books of Plants, and Fowls in Miniature, Abbe Burdelo keeps an Academy at his House for Philosophy every Monday Afternoon.—But I must not think to describe Paris, and the numerous Observables there, in the Compass of a short Letter.—The King's Houses I could not miss; Fontainbleau has a stately Wildness and Vastness suitable to the Desert it stands in. The antique Mass of the Castle of St. Germains, & the Hanging-gardens are delightfully surprising, (I mean to any man of Judgment) for the Pleasures below vanish away in the Breath that is spent in ascending. The Palace, or if you please, the Cabinet of Versailles call'd me twice to view it; the Mixtures of Brick, Stone, blue Tile and Gold make it look like a rich Livery: Not an Inch within but is crouded with little Curiosities of ornaments: the Women, as they make here the Language and Fashions, and meddle with Politicks and Philosophy, so they sway also in Architecture; Works of Filgrand, and little Knacks are in great Vogue; but Building certainly ought to have the Attribute of eternal; and therefore the only thing uncapable of new Fashions. The masculine Furniture of Palais Mazarine pleas'd me much better, where is a great and noble Collection of antique Statues and Bustos, (many of Porphyry)

good Basso-relievos; excellent Pictures of the Great Masters, fine Arras, true Mosaicks, besides Pierres de Rapport in Compartiments and Pavements; Vases on Porcelain painted by Raphael, and infinite other Rarities; the best of which now furnish the glorious Appartment of the Queen Mother at the Louvre, which I saw many Times.—After the incomparable Villas of Vaux and Maisons, I shall but name Ruel, Courances, Chilly, Essoane, St. Maur, St. Mande, Issy, Meudon, Rincy, Chantilly, Verneul, Lioncour, all which, and I might add many others, I have survey'd; and that I might not lose the Impressions of them, I shall bring you almost all France in paper, which I found by some or other ready design'd to my Hand, in which I have spent both Labour and some Money. Bernini's Design of the Louvre I would have given my skin for, but the old reserv'd Italian gave me but a few Minutes view; it was five little Designs in Paper, for which he hath received as many thousand Pistoles; I had only Time to copy it in my Fancy and Memory; I shall be able by Discourse, and a Crayon, to give you a tolerable Account of it. I have purchased a great deal of *Taille-douce*, that I might give our Country-men Examples of Ornaments and Grotesks, in which the Italians themselves confess the French to excel. I hope I shall give you a very good Account of all the best Artists of France; my Business now is to pry into Trades and Arts, I put myself into all Shapes to humour them; 'tis a Comedy to me, and tho' sometimes expenceful, I am loth yet to leave it. Of the most noted Artisans within my Knowledge or Acquaintance I send you only this general Detail, and shall inlarge on their respective Characters and Works at another Time."

ARCHITECTS.

Sig. Cavalier Bernini, Mons. Mansart, Mons. Vaux, Mons. Gobert, Mons. Le Pautre.

Messieurs Anguiere and Sarazin; Sculptors and Statuaries.

Mons. Perrot; famous for Basso-relievos.

Van Ostal, Mr. Arnoldin; Plaisterers, perform the Admiral Works at the Louvre.

Mons. Orphelin, Mons. de Tour; Gravers of Medals and Coins.

PAINTERS IN HISTORY.

Mons. Le Brun, Bourdon, Poussin, Ruvine, Champeine, Vilcein, Loyre, Coypel, Picard.

Miniard, in History and Portraits.

Mons. Beaubrun; in Portraits for Women.

Mess. Baptist, Robert, for Flowers.

Mr. Matthews, an English Painter, at the Rue-Gobelins; works for the Arras-weavers; where Mons. Bruno is the Designer, and an excellent artist.—There I saw Goldsmiths working in Plate admirably well.

Abbe Burdelo works in Enamel.

Mons. de la Quintinye, has most excellent Skill in Agriculture, Planting, and Gardening.

My Lord Berkley returns to England at Christmass, when I propose to take the opportunity of his Company, and by that Time, to perfect what I have on the Anvil; Observations on the present State of Architecture, Arts, and Manufactures in France.

N.B. "Painting & Sculpture, (said the judicious Sieur de Cambray) are the politest and noblest of antient Arts, true-ingenuous, and claiming the Resemblance of Life, the Emulation of all Beauties, the fairest records of all Appearances whether celestial or sublunary, whether angelical, divine or humane. And what Art can be more helpful, or more pleasing to a philosophical Traveller, an Architect, & every ingenious Mechanician? All which must be lame without it."

APPENDIX I

CHRISTOPHER WREN'S REPORT ON SALISBURY CATHEDRAL, 1669

The whole Pile is large and magnificent and may be justly accounted one of the best Patterns of Architecture in that Age wherein it was built.

The Figure of it is a Cross, upon the Intersection of which, stands a Tower and Spire of Stone, as high from the Foundation, as the whole Length of the Navis, or Body of the Church; and it is founded only upon the four Pillars and Arches of the Intersection. Between the Steeple and the East-end is another crossing of the Navis, which on the West-side only wants its Ailes; all other Sides of the main Body and the Crosses are supported on Pillars with Ailes annexed, and buttressed without the Ailes, from whence arise Bows or flying Buttresses to the Walls of the Navis which are concealed within the Timber Roof of the Ailes. The Roof is almost as sharp as an Equilateral Triangle, made of small Timber after the ancient Manner without principal Rafters; but the Wall-plats are double, and tied together with Couples above forty Feet long. The whole Church is vaulted with chalk between Arches and Cross-springers only, after the ancienter Manner, without Orbs and Tracery, excepting under the Tower, where the Springers divide, and represent a wider sort of Tracery; and this appears to me to have been a later work, and to be done by some other Hand

than that of the first Architect, whose Judgment I must justly commend for many Things, beyond what I find in Divers Gothick Fabricks of later Date, which, tho' more elaborated with nice and small Works, yet want the natural Beauty which arises from the Proportion of the first Dimensions. For here the Breadth to the Height of the Navis, and both to the Shape of the Ailes bear a good Proportion. The Pillars and the Intercolumnations, (or spaces between Pillar and Pillar) are well suited to the Height of the Arches, the Mouldings are decently mixed with large Planes without an Affectation of filling every Corner with Ornaments, which, unless they are admirably good, glut the eye as much as in Musick, too much Division the Ears. The Windows are not made too great, nor yet the Light obstructed with many mullions and Transomes of Tracery-work; which was the ill fashion of the next following Age: our Artist knew better, that nothing could add Beauty to Light, he trusted to a stately and rich plainness, that his Marble Shafts gave to his Work: I cannot call them Pillars, because they are so small and slender and generally bear nothing, but are only added for Ornament to the Outside of the great Pillars, and decently fastened with brass.

Notwithstanding this Commendation of the Architect, there are some Original Errors, which I must lay to his Charge, the Discovery of which will give us Light to the Cause of the present Decays.

First, I must accuse Him, that building on a low and marshy Soil, he did not take sufficient care of the Foundation, especially under the Pillars. That Foundation which will bear a Wall, will not bear a Pillar, for Pillars thrust themselves into the Earth, and force open the solid Ground, if the Foundation under them be not broad; and if it be not Hard Stone, it will be ground and crushed as Things are bruised in a Mortar, if the Weight be great.

A second Fault, was the not raising the Floor of the Church above the Fear of Inundations; many sufficient Foundations have failed after the Earth hath been too much drenched with unusual Floods; besides, it is unhandsome to descend into a Place.

The third Fault, is in the Poise of the Building: generally the Substructions are too slender for the Weights above.

The Pillars appear Small enough, and yet they shew much greater than they are; for the Shafts of Marble that encompass them, seem to fill out the Pillars to a Proportionable Bulk; but indeed they bear little or no Weight, and some of those that are Pressed, break and Split; if those Ornaments should be taken off, the Pillar would then appear too little for its Burthen; but this no where so enormous as under the Steeple, which being four hundred Feet in Height, is borne by four Pillars, not much larger than the Pillars of the Ailes: and therefore out of Fear to over-burden them in the Inside of the Tower, for Forty Feet High above, the Navis is made with a slender hollow Work of Pillars and Arches; nor hath it any Buttresses, and the Spire itself is but seven Inches thick, tho' the Height be above one hundred and fifty Feet. This Work of Pillars and Arches within the Tower, makes me believe that the Architect laid his first Floor of Timber forty Feet Higher than the Vault beneath, (which, as I said, was since added) and without doubt intended a Belfry above (as appears by places left in the Walls for Timber, and Fastening of the Frames for the Bells) and so would have concluded with the Tower only, without a Spire. And this addition of a Spire was a second Thought, the Artist is more excusable for having omitted Buttresses to the Tower; and his ingenuity commendable for supplying this Defect, by bracing the Walls together with many large bands of iron within and without, keyed together with much Industry and Exactness: and be-

sides these that appear, I have Reason to believe, that there are Divers other Braces concealed within the thickness of the Walls; and these are so essential to the Standing of the Work, that if they were dissolved, the Spire would spread open the Walls of the Tower, nor could it stand one Minute. But this Way of tying Walls together with Iron, instead of making them of that substance and Form, that they shall naturally poise themselves upon their Butment, is against the Rules of good Architecture; not only because it is corruptible by Rust, but because it is fallacious, having unequal veins in the metal, some pieces in the same bar being three Times stronger than the other; and yet all sound to Appearance. I shall not impute to our Artist those Errors which were generally the mistakes of Builders in that Age; yet it will not be amiss to insist a little upon those which seem to concern us, and to occasion some of the Infirmities in our Buildings.

Almost all the Cathedrals of the Gothick Form are weak and defective in the Poise of the Vault of the Ailes; as for the vault of the Navis, both sides are equally supported, and propped up from the spreading by the Bows or flying Buttresses, which rise from the outward Walls of the Ailes; but for the Vaults of the Ailes, they are indeed supported on the Outside by the Buttresses, but inwardly they have no other Stay but the Pillars themselves, which (as they are usually proprtioned) if they stood alone without the Weight above, could not resist the spreading of the Ailes one minute. True indeed, the great Load above the Walls and Vaults of the Navis, should seem to confirm the Pillars in their perpendicular station, that there should be no need of the Butment inward; but Experience hath shewn the contrary, and there is scarce any Gothick Cathedral, that I have seen, at home or abroad, wherein I have not observed the Pillars to yield and bend inwards from the Weight of the Vault of the Aile; but

this defect is most conspicuous upon the Angular Pillars of the Cross, for there, not only the vault wants Butment, but also the angular Arches that rest upon that Pillar, and therefore both conspire to thrust it inward towards the Center of the Cross: and this is very apparent in the Fabrick we treat of: for this Reason, this Form of Churches has been rejected by Modern Architects abroad, who use the better and Roman Art of Architecture.

APPENDIX J

At a Committee of the Schooles in Christ's Hospitall, the 30th November, 1692, Mr. John Smith, the Writing Master presented to this Committee a specimen of divers of the Boyes drawing, which they have learnt in about three months time according to the directions of a Committee of the 30th of June, 1692. Mr. Treasurer acquainted the Committee that he had two Letters one from Sir Christo. Wren and the other from Esq. Pepys declaring their opinions concerning the introducing the art of drawing amongst the Boyes.

Wren's letter, which Mr. Treasurer Nathaniel Hawes read aloud to the Committee, is as follows:

Nov. 24th, 1692.

Sir,

I perceive your extraordinary diligence: and that the improvement of your charge is always in your thoughts by your importuning me to recollect what passed in discourse some time since at your House. I intended to have waited on you severall times, but have been prevented sometimes by business, and at present by sickness w^ch^ yet detains me. It was observed by somebody there present, that our English Artists are dull enough at Invention but when once a forreigne patterne is sett they imitate soe well that commonly they exceed the Originall, I confess the observation is generally true, but this showes that our natives want not a Genius but education in that w^ch^ is the foundation of all Mechanick Arts, a practice in designing or drawing, to w^ch^ everybody in Italy, Ffrance

and the Low Countries pretends more or less. I cannot imagine that next to good writing anything could be more usefully taught your Children especially such as will naturally take to it, and many such you will find amongst your Numbers who will have a naturall Genius to it, which it is a pity should be stifled. It will prepare them for many Trades and they will be more usefull and profitable to their Masters who shall take them the first Yeare, than a boy untaught will be in three or foure years, and consequently they will be desired and sooner taken from you and at cheaper rates. It is not Painters, Sculptors, Gravers, only that will find an advantage in such Boyes but many other Artificers too long to enumerate. Noe Art but will be mended and improved; by which not only your Charity of the House will be enlarged but the Nation advantaged and this I am confident is obvious to any injenuous person who hath been abroad. I was surprised to see what Mr. Smith hath shown me performed by some of the Boyes already by wh^ch^ you will perceive how soon they will emulate and teach one another. This is what we were discoursing which I repeat in pursuance of your request, and remain,

Your affectionate friend and humble servant,

CHR. WREN.

[Copied from Christ's Hospital Committee Book.]

APPENDIX K

A LETTER TO A FRIEND FROM SIR CHRISTOPHER WREN IN 1708 CONCERNING THE ACT OF PARLIAMENT PASSED TO ERECT FIFTY NEW ADDITIONAL PARISH CHURCHES IN THE CITY OF LONDON AND WESTMINSTER.

Since Providence, in great Mercy, has protracted my Age, to the finishing the cathedral Church of St. Paul, and the parochial Churches of London, in lieu of those demolished by the Fire: (all of which were executed during the Fatigues of my Employment in the Service of the Crown, from that Time to the present happy Reign:) and being now constitued one of the Commissioners for Building, pursuant to the late Act, Fifty more Churches in London and Westminster: I shall presume to communicate briefly my Sentiments, after long Experience: and without further Ceremony exhibit to better Judgment, what at present occurs to me, in a transient View of this whole Affair: not doubting but that the Debates of the worthy Commissioners may hereafter give me occasion to change, or add to these Speculations.

1. First, I conceive the Churches should be built, not where vacant ground may be cheapest purchased in the Extremities of the Suburbs, but among the thicker Inhabitants, for Convenience of the better sort, although the Site of them should cost more: the better Inhabitants contributing most to the

future Repairs, and the Ministers and Officers of the Church, and Charges of the Parish.

2. I could wish that all burials in Churches might be disallowed, which is not only unwholesom, but the Pavements can never be kept even, nor Pews upright: and if the Church-yard be close about the Church, this is also inconvenient, because the Ground being continually raised by the Graves, occasions, in Time, a Descent by Steps into the Church, which renders it damp, and the Walls green, as appears evidently in all old Churches.

3. It will be inquired, where then shall be the Burials? I answer, in Cemeteries seated in the Outskirts of the Town; and since it is become the Fashion of the Age to solemnize Funerals by a Train of Coaches, (even where the Deceased are of moderate Condition) though the Cemeteries should be half a Mile, or more, distant from the Church, the Charge need be little or no more than usual; the Service may be first performed in the Church; But for the Poor, & such as must be interred at the Parish Charge, a publick Hearse of two Wheels and one Horse may be kept at small Expence, the usual Bearers to lead the Horse, and take out the Corpse at the Grave. A Piece of Ground of two Acres in the Fields will be purchased for much less than two Roods among the Buildings: This being inclosed with a strong Brick Wall, and having a Walk round, and two cross Walks, decently planted with Yew-trees, the four Quarters may serve four Parishes, where the dead need not be disturbed at the pleasure of the Sexton, or piled four or five upon one another, or Bones thrown out to gain Room. In these places beautiful Monuments may be erected; but yet the Dimensions should be regulated by an Architect, and not left to the Fancy of every Mason; for thus the Rich, with large Marble Tombs, would shoulder out the Poor; when a Pyramid, a good Bust, or Statue on a

proper Pedestal, will take up little Room in the Quarters, & be properer than Figures lying on Marble Beds: The walls will contain Escutchions and Memorials for the Dead, & the Area good Air and Walks for the Living. It may be considered further, that if the Cemeteries be thus thrown into the Fields, they will bound the excessive Growth of the City with a graceful Border, which is now encircled with Scavengers Dung-stalls.

4. As to the Situation of the Churches, I should propose they be brought as forward as possible into the larger and more open Streets, not in obscure Lanes, nor where Coaches will be much obstructed in the Passage. Nor are we, I think, too nicely to observe East or West, in the Position, unless it falls out properly: Such Fronts as shall happen to lie most open in View should be adorn'd with Porticos, both for Beauty and Convenience; which, together with the handsome Spires, or Lanterns, rising in good Proportion above the neighbouring Houses (of which I have given several Examples in the City of different Forms) may be of sufficient Ornament to the Town, without a great Expence for enriching the outward Walls of the Churches, in which Plainness and Duration ought principally, if not wholly, to be studied. When a Parish is divided, I suppose it may be thought sufficient, if the Mother-church has a Tower large enough for a good Ring of Bells, & the other Churches smaller Towers for two or three Bells; because great Towers, & lofty Steeples, are sometimes more than half the Charge of the Church.

5. I shall mention something of the Materials for publick Fabricks. It is true, the mighty Demand for the hasty Works of thousands of Houses at once, after the Fire of London and the Frauds of those who built by the great, have so debased the Value of Materials, that good Bricks

are not to be now had, without greater Prices than formerly, and indeed, if rightly made, will deserve them; but Brick-makers spoil the Earth in the mixing and hasty burning, till the Bricks will hardly bear Weight; though the Earth about London, rightly managed, will yield as good Brick as were the Roman Bricks, (which I have often found in the old Ruins of the City) and will endure, in our Air, beyond any Stone our Island affords; which, unless the Quarries lie near the Sea, are too dear for general Use; the best is Portland, or Roch-abbey Stone; but these are not without their Faults. The next Material is the Lime; Chalk-lime is the constant Practice, which, well mixed with good Sand, is not amiss, though much worse than hard Stone-lime. The Vaulting of St. Paul's is a rendering as hard as Stone; it is composed of Cockle-shell-lime well beaten with Sand; the more Labour in the beating, the better and stronger the Mortar. I shall say nothing of Marble, (though England, Scotland, and Ireland, afford good, and of beautiful Colours) but this will prove too costly for our Purpose, unless for Altar-pieces. In Windows and Doors Portland-Stone may be used, with good Bricks, and Stone Quoyns. As to Roofs, good Oak is certainly the best; because it will bear some Negligence: The Church-wardens Care may be defective in speedy mending Drips; they usually white-wash the Church, and set up their Names, but neglect to preserve the Roof over their Heads: It must be allowed, that the Roof being more out of Sight, is still more unminded. Next to Oak is good yellow Deal, which is a Timber of Length, and Light, and makes excellent Work at first, but if neglected will speedily perish, especially if Gutters (which is a general Fault in Builders) be made to run upon the Principal Rafters, the Ruin may be sudden. Our Sea-service for Oak, and the Wars in the North-sea, make Timber at present of excessive Price. I suppose 'ere long we

must have recourse to the West-Indies, where most excellent Timber may be had for cutting and fetching. Our Tiles are ill-made, and our Slate not good; Lead is certainly the best and lightest Covering, and being of our own Growth and Manufacture, and lasting, if properly laid, for many hundred Years, is without question, the most preferable; though I will not deny but an excellent Tile may be made to be very durable; our artisans are not yet instructed in it, and it is not soon done to inform them.

6. The Capacity and Dimensions of the new Churches may be determined by a Calculation. It is, as I take it, pretty certain, that the Number of Inhabitants, for whom these Churches are provided, are five times as many as those in the City, who were burned out, and probably more than 400,000 grown Persons that should come to Church, for whom these fifty Churches are to be provided, (besides some Chapels already built, though too small to be made parochial.) Now, if the Churches could hold each 2000, it would yet be very short of the necessary Supply. The Churches therefore must be large; but still, in our reformed Religion, it should seem vain to make a Parish-church larger, than that all who are present can both hear and see. The Romanists, indeed, may build larger Churches, it is enough if they hear the Murmur of the Mass, and see the Elevation of the Host, but ours are to be fitted for Auditories. I can hardly think it practicable to make a single Room so capacious, with Pews and Galleries, as to hold 2000 Persons, and all to hear the Service, and both to hear distinctly, and see the Preacher. I endeavour'd to effect this, in building the Parish Church of St. James's, Westminster, which, I presume is the most capacious, with these Qualifications, that hath yet been built; and yet at a solemn Time, when the Church was much crowded, I could not discern from a Gallery that 2000 were present. In this

Church I mention, though very broad, and the middle Nave arched up, yet are there no Walls of a second Order, nor Lanterns, nor Buttresses, but the whole Roof rests upon the Pillars, as do also the Galleries; I think it may be found beautiful and convenient, & as such, the cheapest of any Form I could invent.

7. Concerning the placing of the Pulpit, I shall observe . . . A moderate Voice may be heard 50 Feet distant before the Preacher, 30 Feet on each Side, and 20 behind the Pulpit, and not this, unless the Pronunciation be distinct and equal, without losing the Voice at the last Word of the Sentence, which is commonly emphatical, and if obscur'd spoils the whole Sense. A French Man is heard further than an English Preacher, because he raises his Voice, and not sinks his last Words: I mention this as an insufferable Fault in the Pronunciation of some of our otherwise excellent Preachers; which School-masters might correct in the young, as a vicious Pronunciation, and not as the Roman Orators spoke: For the principal Verb is in Latin usually the last Word; and if that be lost, what becomes of the Sentence?

8. By what I have said, it may be thought reasonable, that the new Church should be at least 60 Feet broad, and 90 Feet long, besides a Chancel at one End, and the Bellfrey and Portico at the other. These Proportions may be varied; but to build more room, than that every Person may conveniently hear and see, is to create Noise and Confusion. A Church should not be so fill'd with Pews, but that the Poor may have room enough to stand and sit in the Alleys, for to them equally is the Gospel preach'd. It were to be wish'd there were to be no Pews, but Benches; but there is no stemming the Tide of Profit, & the advantage of Pew-keepers; especially too since by Pews, in the Chapels of Ease, the Minister is chiefly supported. It is evident

these fifty Churches are not enough for the present inhabitants, & the Town will continually grow; but it is to be hoped, that hereafter more may be added, as the Wisdom of the Government shall think fit; and therefore the Parishes should be so divided, as to leave room for Sub-divisions, or at least for Chapels of Ease.

I cannot pass over mentioning the Difficulties that may be found in obtaining the Ground proper for the Sites of the Churches among the Buildings, and the Cemeteries in the Borders without the Town; and therefore I shall recite the Method that was taken for purchasing in Ground at the North-side of St. Paul's Cathedral, where in some Places the Houses were but eleven Feet distant from the Fabrick, exposing it to the continual Danger of Fires. The Houses were seventeen, and contiguous, all in Lease-hold of the Bishop, or Dean alone, or the Dean and Chapter, or the Petty-canons, with diver Undertenants. First we treated with the superior Landlords, who being perpetual Bodies were to be recompens'd in Kind, with Rents of the like Value for them and their successors; but the Tenants in Possession for a valuable Consideration; which to find what it amounted to, we learn'd by diligent Inquiry, what the Inheritance of Houses in that Quarter were usually held at: This we found was fifteen Years Purchase at the most, and proportionably to this the Value of each Lease was easily determin'd in a Scheme, referring to a Map. These Rates, which we resolv'd not to stir from, were offered to each; and, to cut off much Debate, which may be imagin'd every one would abound in, they were assur'd that we went by one uniform Method, which could not be receded from. We found two or three reasonable Men, who agreed to these Terms: Immediately we paid them, and took down their Houses. Others who stood out at first, finding themselves in

Dust and Rubbish, and that ready Money was better, as the Case stood, than to continue paying Rent, Repairs, and Parish Duties, easily came in. The whole Ground at last was clear'd. and all concern'd were satisfied, and their Writings given up. The greatest Debate was about their Charges for fitting-up their new Houses to their particular Trades: For this we allow'd one Year's Purchase, & gave leave to remove all their Wainscote, reserving the Materials of the Fabrick only. This was happily finish'd without a Judicatory or Jury; altho' in our present Case, we may find it perhaps sometimes necessary to have recourse to Parliament.

APPENDIX L

MEMORIAL FROM SIR CHRISTOPHER WREN TO THE BISHOP OF ROCHESTER CONCERNING THE ABBEY CHURCH OF ST. PETER AT WESTMINSTER, 1713.

When I had the Honour to attend your Lordship to congratulate your Episcopal Dignity, and pay that Respect which particularly concerned myself as employed in the chief Direction of the Works and Repairs of the Collegiate-church of St. Peter in Westminster; you was pleased to give me this seasonable Admonition, that I should consider my advanced Age; and as I had already made fair Steps in the Reparation of that ancient and ruinous Structure, you thought it very requisite for the Publick Service, I should leave a Memorial of what I had done; and what my Thoughts were for carrying on the Works for the future.

In order to describe what I have already done, I should first give a State of the Fabrick as I found it; which being the Work of 500 Years, or more, through several Ages and Kings Reigns, it will come in my Way to consider the Modes of Building in those Times, and what Light Records may afford us; such as at present I am able to collect, give me leave to discourse a little upon.

That a Temple of Apollo was here in Thorny-island (the Place anciently so called, where the Church now stands) and ruined by an Earthquake in the Reign of the Emperor

Antoninus Pius, I cannot readily agree. The Romans did not use, even in their Colonies, to build so lightly; the Ruins of ancienter Times shew their Works to this Day; the least Fragment of Cornice, or Capital, would demonstrate their Handy-work. Earthquakes break not Stones to Pieces, nor would the Picts be at that Pains: but I imagine the Monks finding the Londoners pretending to a Temple of Diana, where now St. Paul stands; (Horns of Stags, Tusks of Boars, etc., having been dug up there in former Times, and it is said also, in later Years) would not be behind Hand in Antiquity: but I must assert, that having changed all the Foundations of Old Paul's, and upon that Occasion rummaged all the Ground thereabouts, and being very desirous to find some Footsteps of such a Temple, I could not discover any, and therefore can give no more Credit to Diana than to Apollo.

To pass over the fabulous Account, that King Lucius first founded a little Church here, A.D. 170, out of the Ruins of the Temple of Apollo, destroyed by an Earthquake a little before: but it is recorded with better Authority, that Sebert, King of the East-Saxons, built a Monastery and Church here in 605, which being destroyed by the Danes, was about 360 Years after repaired by the pious King Edgar. This, it is probable, was a strong good Building, after the Mode of that Age, not much altered from the Roman. We have some Examples of this ancient Saxon Manner, which was with Peers or round Pillars, much stronger than Tuscan, round headed Arches, and Windows; such was Winchester Cathedral of old; and such at this Day the Royal Chapel in the White-tower of London; the Chapel of St. Crosse; the Chapel of Christ-church in Oxford, formerly an old Monastery; & divers others I need not name, built before the Conquest; & such was the Old Part of St. Paul's built in King Rufus's Time.

King Edward the Confessor repaired, if not wholly rebuilt

this Abbey-church of King Edgar; of which a Description was published by Mr. Camden in 1606, from an ancient Manuscript in these words: "Principalis area domus, altissimis erecta fornicibus quadrato opere, parique commissura circumvolvitur; ambitus autem ipsius ædis duplici lapidum arcu ex utroque latere hinc inde fortiter solidata operis compage clauditur. Porro crux templi quæ medium canentium domino chorum ambiret, & sui gemina hinc inde sustentatione mediæ turris celsum apicem fulciret, humili primum & robusto fornice simpliciter surgit; deinde cochleis multipliciter ex arte ascendentibus plurimis intumescit; deinceps vero simplic muro usque ad tectum ligneum plumbo diligenter vestitum pervenit."

The Sense of which I translate into Language proper to Builders, as I can understand it.

"The principal Aile or Nave of the Church being raised high, & vaulted with square and uniform Ribs, is turned circular to the East. This on all Sides is strongly fortified with double Vaulting of the Ailes in two Stories, with their Pillars and Arches. The Cross-building fitted to contain the Quire in the Middle, and the better to support the lofty Tower, rose with a plainer and lower Vaulting; which Tower then spreading with artificial Winding-stairs, was continued with plain Walls to its Timber Roof, which was well covered with Lead."

These ancient Buildings were without Buttresses, only with thicker Walls: the Windows were very narrow, and latticed, for King Alfred is praised for After-invention of Lanterns to keep in the Lamps in Churches. In the Time of King Henry the Third, the Mode began, to build Chapels behind the Altar to the Blessed Virgin: what this Chapel here was, is not now to be discovered, I suppose the Foundations of it, are under the Steps of King Henry the Seventh's Chapel, and this Work

probably semicircular (as afterwards four more were added without the Ailes) was also intended for his own Sepulture; some of his own Relations lying now, just below those Steps, and may be supposed to have been within his Chapel: of this he laid the first Stone, Anno 1220, and took down the greatest Part of St. Edward's Church to rebuild it according to the Mode which came into Fashion after the Holy War.

This we now call the Gothick Manner of Architecture (so the Italians called what was not after the Roman Style) tho' the Goths were rather Destroyers than Builders; I think it should with more Reason be called the Saracen Style; for those People wanted neither Arts nor Learning; and after we in the West had lost both, we borrowed again from them, out of their Arabick Books, what they with great Diligence had translated from the Greeks.

They were Zealots in their Religion, and where-ever they conquered, (which was with amazing Rapidity) erected Mosques and Caravansara's in Haste; which obliged them to fall into another Way of Building; for they built their Mosques round, disliking the Christian Form of a Cross, the old Quarries whence the ancients took their Blocks of Marble for whole Columns and Architraves, were neglected, and they thought both impertinent. Their Carriage was by Camels, therefore their Buildings were fitted for small Stones, and Columns of their own Fancy, consisting of many Pieces; and their Arches were pointed without Key-stones, which they thought too heavy.

The Reasons were the same in our Northern Climates, abounding in Free-stone, but wanting Marble.

The Crusado gave us an Idea of this Form; after which King Henry built his Church, but not by a Model well digested at first; for, I think, the Chapels without the Ailes were an

after-thought, the Buttresses between the Chapels remaining being useless, if they had been raised together with them; & the King having opened the East-end for St. Mary's Chapel, he thought to make more Chapels for Sepulture; which was very acceptable to the Monks, after Licence obtained from Rome to bury in Churches, a Custom not used before.

The King's intention was certainly to make up only the Cross to the Westward, for thus far it is of a different Manner from the rest more Westward built after his Time, as the Pillars and Spandrils of the Arches shew.

I am apt to think the King did not live to compleat his Intention nor to reach four Inter-columns West of the Tower; the Walls of this Part might probably be carried up in his Time, but the Vaulting now covering the Quire, tho' it be more adorned and gilded, is without due Care in the Masonry, and is the worst performed of all done before. This Stone Vault was finished 23 Years after his Decease, in the Reign of King Edward the First, so that the old Verse is not punctually right,

"Tertius Henricus est templi conditor hujus."

But alas! it was now like to have been all spoiled; the Abbots would have a Cloyster, but scrupled, I suppose, at moving some venerable Corpses laid between the Outside Buttresses; then comes a bold, but ignorant Architect, who undertakes to build the Cloyster, so that the Buttresses should be without the Cloyster spanning over it as may be seen in the Section.

This was a dangerous Attempt. It is by due Consideration of the Statick Principles, and the right Poising of the Weights of the Butments to the Arches, that good Architecture depends; and the Butments ought to have equal Gravity on both Sides. Altho' this was done to flatter the Humour of the

Monks, yet the Architect should have considered that new Works carried very high, and that upon a newer Foundation, would shrink: from hence the Walls above the Windows are forced out ten Inches, and the Ribs broken. I could not discern this Failure to be so bad, till the Scaffold over the Quire was raised to give a close View of it; and then I was amazed to find it had not quite fallen. This is now amended with all Care, and I dare promise it shall be much stronger, and securer than ever the first Builders left it.

After what had been done by King Henry the Third and his Successor, it is said, the Work was carried further by the Abbots and Monks towards the West, and I perceive also the contiguous Cloyster after the Manner it was begun by King Henry the Third with Butments spanning over the Cloyster, which they were necessitated to proceed upon, according as it had been begun, tho' by Error, not to be amended till it was carried beyond the Cloyster; but then they proceeded with regular Butments answerable to the North-side, till they came to the West-front. This West-vault was proceeded on with much better Care and Skill, and was a Work of many Years, during the Reigns of the three succeeding Edwards, and King Richard the Second. I suppose there was a great Intermission or Slackness of Work, till the Lancastrian Line came in; for then, in the very first Bay of this Work, I find in the Vaulting, and the Key-stones, the Rose of Lancaster.

In the tumultuous and bloody Wars between the two Houses of York & Lancaster, little was done to the Abbey, but by the Zeal of the Abbots, who drove the Work on as well as they were able, tho' slowly, to the West-end, which was never compleatly finished.

When King Henry the Eight dissolved the Monastery, the Cloyster was finished, and other Things for the Convenience of the Abbey.

The Consistory (no contemptible Fabrick) was, I think, done in the Time of King Edward the First, and in order to join it to the Church, the East-side of the Cloyster was taken out of the West-side of the Cross Part of the Church (by ill Advice) for it might have otherwise been done by a more decent Contrivance, but it may be the King was to be obeyed, who founded this octagonal Fabrick: the Abbot lent it to the King for the Use of the House of Commons, upon Condition the Crown should repair it, which, tho' it be now used for Records, hath lately been done. The Saracen Mode of Building, seen in the East, soon spread over Europe, and particularly in France; the Fashions of which Nation we affected to imitate in all Ages, even when we were at Enmity with it.

Nothing was thought magnificent that was not high beyond Measure, with the Flutter of Archbuttresses, so we call the sloping Arches that poise the higher Vaultings of the Nave. The Romans always concealed their Butments, whereas the Normans thought them ornamental. These I have observ'd are the first Things that occasion the Ruin of Cathedrals, being so much exposed to the Air and Weather; the Coping, which cannot defend them, first failing, & if they give way, the Vault must spread. Pinnacles are of no Use, and as little Ornament. The Pride of a very high Roof raised above reasonable Pitch is not for Duration, for the Lead is apt to slip; but we are tied to this indiscreet Form, & must be contented with original Faults in the first Design. But that which is most to be lamented, is the unhappy Choice of the Materials, the Stone is decayed four Inches deep, and falls off perpetually in great Scales. I find, after the Conquest, all our Artists were fetched from Normandy; they loved to work in their own Caen-stone, which is more beautiful than durable. This was found expensive to bring hither, so they thought

Rygate-stone in Surrey, the nearest like their own, being a Stone that would saw and work like Wood, but not durable, as is manifest; and they used this for the Ashlar of the whole Fabrick, which is now disfigur'd in the highest Degree: this Stone takes in Water, which, being frozen, scales off, whereas good Stone gathers a Crust, and defends itself, as many of our English Free-stones do. And though we have also the best Oak Timber in the World, yet these senseless Artificers in Westminster hall, & other Places, would work their Chestnuts from Normandy; that Timber is not natural to England, it works finely, but sooner decays than Oak. The Roof in the Abbey is Oak, but mixed with Chestnut, and wrought after a bad Norman Manner, that does not secure it from stretching, & damaging the Walls, and the Water of the Gutters is ill carried off. All this is said, the better, in the next Place, to represent to your Lordship what has been done, and is wanting still to be carried on, as Time and Money is allowed to make a substantial and durable Repair.

First, in Repair of the Stone-work, what is done shews itself: beginning from the East-window, we have cut out all the ragged Ashlar, & invested it with a better Stone, out of Oxfordshire, down the River, from the Quarries about Burford. We have amended and secured the Butresses in the Cloyster-garden, as to the greatest Part; and we proceed to finish that Side; the Chapels on the South-side are done, and most of the Archbuttresses all along as we proceeded. We have not done much on the North-side, for these Reasons: the Houses on the North-side are so close, that there is not Room left for the raising of Scaffolds and Ladders, nor for Passage for bringing Materials: besides, the Tenants taking every Inch to the very Walls of the Church to be in their Leases, this Ground already too narrow, is divided as the Backsides to Houses, with Wash-houses, Chimnies, Privies, Cellars, the

Vaults of which, if indiscreetly dug against the Foot of a Buttress, may inevitably ruin the Vaults of the Chapels (and indeed I perceive such Mischief is already done, by the Opening of the Vaults of the octagonal Chapel on that side) and unless effectual Means be taken to prevent all Nusances of this Sort, the Works cannot proceed, and if finished, may soon be destroyed. I need say no more, nor will I presume to dictate, not doubting but proper Means will be taken to preserve this noble Structure from such Nusances, as directly tend to the Demolition of it.

And now, in further Pursuance of your Lordship's Directions, I shall distinctly set down, what yet remains to finish the necessary Repairs for Ages to come. And then, in the second Place, (since the first Intentions of the Founders were never brought to a Conclusion) I shall present my Thoughts and Designs, in order to a proper compleating of what is left imperfect, hopeing we may obtain for this, the Continuance of the Parliamentary Assistance.

I have yet said nothing of King Henry the Seventh's Chapel, a nice embroidered Work, and performed with tender Caen-stone, & tho' lately built, in Comparison, is so eaten up by our Weather, that it begs for some Compassion, which, I hope, the Sovereign Power will take, as it is the regal Sepulture.

I begin, as I said, to set down what is necessary for compleating the Repairs, tho' Part thereof at present I can only guess at, because I cannot as yet come at the North-side to make a full Discovery of the Defects there, but I hope to find it rather better than the South-side; for it is the Vicissitudes of Heat and Cold, Drought and Moisture, that rot all Materials more than the Extremities that are constant, of any of these Accidents: this is manifest in Timber, which, if always under Ground & wet, never decays, otherwise Venice

and Amsterdam would fall: it is the same in Lead-work, for the North-side of a steep Roof is usually much less decayed than the South; and the same is commonly seen in Stone Work; besides, the Buttresses here are more substantial than those of the South-side which I complained before were indiscreetly altered for the sake of the Cloyster; and I find some Emendations have been made about eighty Years since, but not well. Upon the whole Matter I may say, that of the necessary Repairs of the Outward Stone Work, one third Part is already compleated. The most dangerous Part of the Vaulting over the Quire now in Hand will be finished in a few Months, but the Roof over it cannot be opened till Summer. The Repairs of the Stone Work, with all the Chapels, Arch-buttresses, Windows, and Mouldings of the North-side are yet to be done, excepting Part of the North-cross Aile: a great Part of the Expence will be in the North-front, and the great Rose Window there, which being very ruinous, was patched up for the present to prevent further Ruin, some Years since, before I was concerned, but must now be new done: I have prepared a proper Design for it. The Timber of the Roof of the Nave, and the Cross, is amended and secured with the Lead; and also the Chapels: but the whole Roof, & Ailes from the Tower Westward, with Lead & Pipes to be new-cast, remains yet, with all the Timber Work, to be mended, as hath been done Eastward of the Tower already. The Chapels on the North-side must have their Roofs amended, when we can see how to come at them, after the Removal of one little House.

And now having given a summary Account of what will perfect the meer Repairs, let me add what I wish might be done to render those Parts with proper Aspect, which were left abruptly imperfect by the last Builders, when the Monastery was dissolved by King Henry the Eighth.

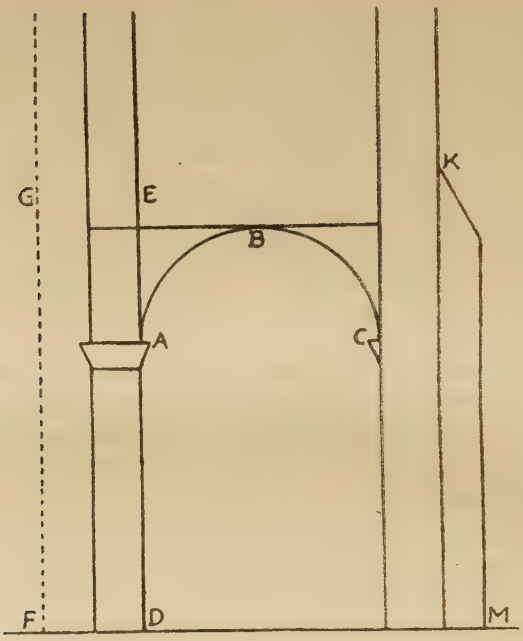
The West-front is very requisite to be finished, because the two Towers are not of equal Height, and too low for the Bells, which hang so much lower than the Roof, that they are not heard so far as they should be: the great West-window is also too feeble, & the Gabel-end of the Roof over it, is but Weather-boards painted.

The original Intention was plainly to have had a Steeple, the Beginnings of which appear on the Corners of the Cross, but left off before it rose so high as the Ridge of the Roof; & the Vault of the Quire under it, is only Lath and Plaister, now rotten, and must be taken care of.

Lest it should be doubted, whether the four Pillars below, be able to bear a Steeple, because they seem a little swayed inward, I have considered how they may be unquestionably secured, so as to support the greatest Weight that need be laid upon them; & this after a Manner that will add to their Shape and Beauty.

It is manifest to the Eye, that the four innermost Pillars of the Cross are bended inward considerably, and seem to tend to Ruin, and the Arches of the second Order above are cracked also; how this has happened, and how it is to be secured, I shall demonstrate.

I conceive the Architect knew very well, that the four Pillars above the Intersection of the Cross-nave would not prove a sufficient Butment to stand against the Pressure of so many Arches, unless they were very much bigger than the other Piers; but that could not be without cumbering up the principal Part of the Church: but tho' these angular Pillars could not be made bigger, yet they could be made heavier to stand against the Pressure of the several Rows of Arches, which might prove an Equivalent, as may appear thus:



Let A B C be an Arch resting at C, against an immoveable Wall K M, but at A upon a Pillar A D, so small as to be unable to be a sufficient Butment to the Pressure of the Arch A B: what is then to be done? I cannot add F G to it to make it a Butment, but I build up E so high, as by Addition of Weight, to establish it so firm, as if I had annexed F G to it to make it a Butment: it need not be enquired how much E must be, since it cannot exceed provided A D be sufficient to bear the Weight imposed on it: and this is the Reason why in all Gothick Fabricks of this Form, the Architects were wont to build Towers or Steeples in the Middle, not

only for Ornament, but to confirm the middle Pillars against the Thrust of the several Rows of Arches, which force against them every Way. The Architect understood this well enough, but knowing that it might require Time to give such a Butment as the Tower to his Arches, which was to be last done; and lest there should be a Failing in the mean Time, he wisely considered, that if he tied these Arches every Way with Iron, which were next to the Middle of the Cross: this might serve the Turn, till he build the Tower to make all secure, which is not done to this Day. These Irons which were hooked on from Pillar to Pillar have been stolen away; and this is the Reason of the four Pillars being bent inward, and the Walls above cracked; but nothing can be amended, till first the Pillars are restored, which I have considered how to perform, and represented in a Model. This must be first done, otherwise the Addition of Weight upon that which is already crooked and infirm, will make it more so: but the Pillars being once well secured from further Distortion, it will be necessary to confirm all by adding more Weight upon them, that is, by building a Tower according to the original Intention of the Architect, and which was begun, as appears by the Work, but left off before it rose to the Ridge of the Roof. In my Opinion the Tower should be continued to at least as much in Height above the Roof, as it is in Breadth; and if a Spire be added to it, it will give a proper Grace to the whole Fabrick, and the West-end of the City, which seems to want it.

I have made a Design, which will not be very expensive but light, and still in the Gothick Form, and of a Style with the rest of the Structure, which I would strictly adhere to, throughout the whole Intention: to deviate from the whole Form, would be to run into a disagreeable Mixture, which no Person of a good Taste could relish.

I have varied a little from the usual Form, in giving twelve Sides to the Spire instead of eight, for Reasons to be discerned upon the Model.

The Angles of Pyramids in the Gothic Architecture, were usually inriched with the Flower the Botanists call Calceolus, which is a proper Form to help workmen to ascend on the Outside to amend any Defects, without raising large Scaffolds upon every slight Occasion; I have done the same, being of so good Use, as well as agreeable Ornament.

The next Thing to be considered is, to finish what was left undone at the West-front.

It is evident, as is observed before, the two West-towers were left imperfect, and have continued so since the Dissolution of the Monastery, one much higher than the other, though still too low for Bells, which are stifled by the Height of the Roof above them; they ought certainly to be carried to an equal Height, one Story above the Ridge of the Roof, still continuing the Gothick Manner, in the Stone-work, and Tracery.

Something must be done to strengthen the West-window, which is crazy; the Pediment is only boarded, but ought undoubtedly to be of Stone. I have given such a Design, as I conceive may be suitable for this Part: the Jerusalem-Chamber is built against it, and the Access from Tothill-street not very graceful.

The principal Entrance is from King-street, and I believe always will continue so, but at present, there is little Encouragement to begin to make this North-front magnificent in the Manner I have designed, whilst it is so much incumbered with private Tenements, which obscure and smoke the Fabrick, not without danger of fireing it.

The great North-window had been formerly in danger of Ruin, but was upheld, and stopt up, for the present, with

Plaister. It will be most necessary to rebuild this with Portland-stone, to answer the South-rose-window, which was well rebuilt about forty years since; the Stair-cases at the Corners must now be new Ashlar'd, and Pyramids set upon them conformable to the old-Style, to make the Whole of a Piece. I have therefore made a Design [1] in order to restore it to its proper shape first intended, but which was indiscreetly tamper'd with some years since, by patching on a little Dorick Passage before the great Window, & cropping off the Pyramids, and covering the Stair-cases with very improper Roofs of Timber and Lead, which can never agree with any other part of the Design.

For all these new Additions I have prepared perfect Draughts & Models, such as I conceive may agree with the original Scheme of the old Architect, without any modern Mixtures to shew my own Inventions; in like manner as I have among the Parochial Churches of London given some few Examples (where I was oblig'd to deviate from a better Style) which appear not ungraceful, but ornamental, to the East part of the City; and it is to be hoped, by the publick Care, to the West part also, in good Time, will be as well adorned; and surely by nothing more properly than a lofty Spire, and Western-towers to Westminster-Abbey.

1 This front, commonly called Solomon's Porch, the Surveyor lived to finish in the year 1722. [Marginal note from *Parentalia.*]

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